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REPORT

TO THE

BOARD OF AGRICULTURE FOR SCOTLAND

BY

H. M. CONACHER of the Board of Agriculture for Scotland

AND

W. R. SCOTT, LL.D., Adam Smith Professor of Political Economy
in the University of Glasgow

ON

AGRICULTURAL CREDIT AND ORGANISATION
FRANCE, WITH SUGGESTIONS FOR A
SCOTTISH SCHEME OF AGRICULTURAL CREDIT.

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NOTE.—This Report is a continuation of the Interim Report on
Farms and Small Holdings in Scotland

Economics of Small

7835

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INTRODUCTORY STATEMENT.

WE thought it desirable, before drafting a scheme of agricultural credit for Scotland, to study at close quarters the working of the French system, which is a growth of recent years and is the result of a happy co-operation between the spontaneous activity of the agricultural community and the efforts of the legislature inspired by successive governments. As is well known, the economic position of the peasant landholder has been a matter of serious interest to French governments for years past, and the elaborate series of "monographic" surveys made in every department at the instance of M. Ruau, the then Minister of Agriculture, and published in 1909, went far to reassure the French people of the essential soundness of the rural economy of the country. An industry, based mainly on the activities of some millions of peasant landholders, has survived the severe test of the past generation and been consolidated on its traditional basis. This result has been due primarily to an achievement of agricultural organisation, the greatness of which is now recognised in France, but, we are satisfied, is not too well realised in this country. The French peasant has done more than recruit the heroic armies of his great country: in the generation before the War, he built up an economic structure of associated enterprise and productivity, which is in itself a great monument of the plastic and inventive genius of the French people. "Menses profundo, pulcrior evenit," as was said of an earlier Latin people.

We have accordingly given some account of the growth of the French agricultural "syndicats," the unions of which cover the greater part of the rural districts of France, so that the agriculture of the country is now a highly organised industry. In view of the existence of this movement, it would indeed give a false impression if we tried to deal with agricultural credit in such a way as to isolate it from the general progress of agricultural organisation in France.

The Scottish Office were good enough to ask the Foreign Office to afford us facilities for getting into touch with the French Ministry of Agriculture, and we wish in particular to express our thanks to Captain Yeames of the British Embassy at Paris, who made things smooth for us. The officials of the Ministry of Agriculture were very helpful, and after we had traced our itinerary, gave us introductions to the Departmental Directors of Agricultural Services and the officials on our more important "Caisses Régionales," or Regional Credit Institutions, at Bordeaux. We followed the main line of the Orleans railway from Paris to we visited Tours, Poitiers, and Angoulême. One of the reasons why a system of co-operative dairying called "métayage," which is most common in this part of the Charente (we discovered that we had also reached a district (Poitou and co-operative dairying) which has been the scene of a wonderful development in successful of the "caisses régionales." We then went eastwards along the line of the Midi—for the somewhat disorganised state of the railway services made it expedient not to go far from the main lines—and stayed a few days at Montauban (near Toulouse), the chief town of the Department of the Tarn et Garonne, where "métayage" is common. Hereafter we made for Provence, and following up the Rhône valley, pushed in Dauphiné, and then into La Haute Savoie. In the evolution of pastoral farming in mountainous Departments, we were able to study conditions resembling those of the Scottish Highlands. Thereafter we spent a few days at Besançon, and learnt something of the older dairying industry of the Jura, and thence returned to Paris.

Before dealing with the more special questions, we have thought it fitting to give a short general sketch of French agriculture, and for that purpose, have prepared some comparative statistical tables of the agricultural production of the United Kingdom and France.

AGRICULTURAL STATISTICS.

FRANCE AND UNITED KINGDOM.

I.—DIVISION OF TOTAL AREA INTO PRODUCTIVE AND UNPRODUCTIVE AREAS.

Date of Annual Return.	Country.	Total Productive Area.	Total Unproductive Area.	Total Area.
1910	France	Hectares. 50,037,388	Hectares. 2,918,376	Hectares. 52,955,764
1911	Great Britain	19,318,843	3,668,704	22,987,547
1911	Ireland	7,603,862	631,669	8,235,531
1911	United Kingdom	26,922,705	4,300,373	31,223,078

II.—SUBDIVISION OF PRODUCTIVE AREA.

Date of Annual Return.	Country.	Arable Land.	Untilled Meadowland and Pasture.	Trees and Shrubs.	Woods and Forests.	Marsh, Heath, and Uncultivated Land.	Total Productive Area.
1910	France	Hectares. 23,927,092	Hectares. 10,062,860	Hectares. 2,808,763	Hectares. 9,329,193	Hectares. 3,909,480	Hectares. 50,037,388
1911	Great Britain	5,903,355	12,270,922	{ 24,313 * 101,448	1,120,253	—	19,318,843
1911	Ireland	1,325,241	5,667,130	5,365	121,319	484,807	7,603,862
1911	United Kingdom	7,228,596	17,938,052	{ 29,678 * 101,448	1,241,572	484,807	26,922,705

* Not to be entered in total, as this area has already been attributed to other crops.

COMPARISON OF AGRICULTURAL PRODUCTION IN THE UNITED KINGDOM AND FRANCE.

AGRICULTURAL STATISTICS—*continued.*

FRANCE AND UNITED KINGDOM.

III.—SUBDIVISION OF ARABLE LAND.

Date of Annual Return.	Country.	Grain Crops.	Rotation Grasses and other Fodder Crops.	Other Crops and Fallow Land.				Total Arable.
				Food Plants.	Industrial Plants.	Bare and Pastured Fallows, and Crops for Green Manure.	Too-General Classifications.	
1910	France	Hectares. 13,611,106	Hectares. 5,130,580	Hectares. 2,189,926	Hectares. 388,499	Hectares. 2,606,981	Hectares. 23,927,092	
1911	Great Britain	2,657,437	1,948,286	1,106,045	13,559	133,302	5,903,355	
1911	Ireland	506,840	413,720	377,722	26,959	—	1,325,241	
1911	United Kingdom	3,164,277	2,362,006	1,483,767	40,518	133,302	7,228,596	

IV.—(a) AREA AND PRODUCTION OF VARIOUS CROPS.

Date.	Country.	Wheat.	Barley.	Oats.	Potatoes.
Average for the years 1910-14 inclusive.	France	Hectares. 6,517,784	Hectares. 761,167	Hectares. 3,972,942	Hectares. 1,547,944
	Great Britain	749,870	682,347	1,199,675	237,079
	Ireland	16,872	67,727	423,898	238,340
	United Kingdom	766,740	750,073	1,623,573	475,419

IV.—(b) PRODUCTION IN QUINTALS (1 Quintal = 2 Cwt.).

Date.	Country.	Wheat.	Barley.	Oats.	Potatoes.
Average for the years 1910-14 inclusive.		Quintals.	Quintals.	Quintals.	Quintals.
	France	84,328,070	10,580,168	51,331,122	126,617,064
	Great Britain	15,778,437	12,402,475	20,194,767	37,350,737
	Ireland	416,214	1,623,393	9,325,367	33,118,071
	United Kingdom	16,194,652	14,025,868	29,520,134	70,468,808

IV.—(c) YIELD PER HECTARE IN QUINTALS (1 Quintal = 2 Cwt.).

Date.	Country.	Wheat.	Barley.	Oats.	Potatoes.
Average for the years 1910-14 inclusive.		Quintals.	Quintals.	Quintals.	Quintals.
	France	12·9	13·9	12·9	81·8
	Great Britain	21·0	18·2	16·8	157·8
	Ireland	24·7	23·9	22·0	139·1
	United Kingdom	21·1	18·7	18·2	148·3

COMPARISON BETWEEN NUMBER OF LIVE STOCK IN GREAT
BRITAIN AND FRANCE BETWEEN 1910-1914

I.—RETURNS OF LIVE STOCK, 1913.

Country.	Date of Return.	Horses.	Cattle.	Sheep.	Pigs.
France . . .	31/12/13	3,230,700	14,807,380	16,213,030	7,047,750
Great Britain . . .	4/6/13	1,324,404	6,963,854	23,931,412	2,233,855
Ireland . . .	4/6/13	614,482	4,932,625	3,620,724	1,060,360
United Kingdom	4/6/13	1,938,886	11,896,479	27,552,136	3,294,215

II.—RETURNS OF LIVE STOCK, 1914.

France . . .	31/12/14	—	13,120,649	14,559,586	6,113,184
Great Britain . . .	4/6/14	1,296,188	7,092,918	24,285,514	2,634,249
Ireland . . .	4/6/14	619,345	5,051,645	3,600,581	1,305,638
United Kingdom	4/6/14	1,915,533	12,144,563	37,886,095	3,939,887

III.—STATISTICAL ESTIMATES OF LIVE STOCK COMPARED WITH POPULATION NEAREST
TO THE YEAR 1914—i.e. NUMBER OF ANIMALS PER 1000 INHABITANTS.

France	81	330	367	154
Great Britain	31	169	578	63
Ireland	142	1,155	823	298
United Kingdom	86	662	700	180

IV.—COMPARISON BETWEEN NUMBER OF LIVE STOCK AND PRODUCTIVE AREA.

Country.	Date to which figures of Productive Area refer.	Date to which estimate of Live Stock refers.	Number of Head per 1000 Hectares.			
			Horses.	Cattle.	Sheep.	Pigs.
France	1910	31/12/14 and 1913	65	262	291	122
Great Britain	1911	4/6/14	67	367	1,257	136
Ireland	1911	1/6/14	81	664	474	172
United Kingdom	1911	/6/14	74	515	865	154

The statistics bring out some definite differences between the agriculture of France and the United Kingdom. These are due partly to soil and climate, partly to differences in the relative contributions of capital and labour, to the relative proportion of consumers and producers in the respective populations, and partly to differences in land tenure and in fiscal policy.

The area of France is much greater than that of the United Kingdom—about five to three—and though France contains such mountain districts as the Alpine Departments of the South-East, including the Dauphiné Alps, which lie well within the French frontier, the Pyrenees, a chain about 200 miles long, the Jura and Vosges, and the mountains of the Central Massif, France has considerably less entirely unproductive land than Great Britain.

It is to be observed that both France and the United Kingdom are countries with their main axis from North to South, like Italy again, but not like Germany which lies mainly West and East. This gives the United Kingdom and France a greater range of temperature.

One of the noticeable differences between the two countries is in the relative extent and intensiveness of their main cereal and potato crops.

Thus the United Kingdom has under wheat less than an eighth of the corresponding area in France—but the crop is about a fifth of the French crop, the yield per acre being 21 quintals in the United Kingdom as against 13 in France.

The wheat crop in the two countries illustrates the difference between two systems. The free market in the United Kingdom has led to a specialisation in agriculture upon the branches of the industry which are most profitable. In France, too, foreign competition is commonly urged as one of the causes of agricultural depression towards the end of the nineteenth century. It would be difficult for any British critic, living in a country in which four-fifths of the grain consumed is imported, however much he might identify himself with the interests of the corn grower, to regard foreign competition as severe in a country where six-sevenths of the grain consumed is home-grown.

Again, the believer in high farming on large farms occupied by capitalist farmers might probably draw a contrast in favour of the more intensive wheat growing on a smaller area in the United Kingdom as compared with the much larger area in France, made up largely of a very great number of small acreages on small holdings producing "uneconomically." Yet if one looks beyond the bare conditions of production, it is probable that both systems suit the totality of the conditions of their respective countries.

Looking at the populous areas of Lancashire and Yorkshire (with a population of nearly ten millions between them), one is probably justified in suggesting that to feed them with American grain, imported in bulk and milled in large mills, is, in view of the relative expenses of production and distribution, as scientific a method of providing them with bread as any other. In this connection it is interesting to quote the experience of the North-Eastern Railway, which, in one year, carried 269,222 tons of foreign grain from two ports, Hull and Newcastle, while the 265,893 tons of English grain carried by them the same year had to be collected from 467 separate points. On the other hand, any open-minded British free trader would respect and appreciate the motives of a policy which determines a great home production of grain in France, even though much of it is grown otherwise than on the lines of mass production. There are very few densely populated industrial districts in France compared with those of Great Britain and Germany. The problem of distribution therefore is simpler. France, in fact, is half way between the position of a country where agriculture is carried on for subsistence, and one in which the greater part of the population is made up of consumers who do not produce foodstuffs. Add to this that great areas of France are suitable for wheat growing, that the population eats more bread and less meat than the industrial populations of Great Britain and Germany—and it is not surprising that France is the great wheat-growing country of Europe, producing more than any other European country except Russia.

The areas under oats, barley, and potatoes are nearer to each other in the two countries, and here again the yield per hectare is upwards of 50 per cent. greater in the United Kingdom than in France.

On the other hand, in stock we are nearer to the French—naturally they have more horses, as they have far more holdings, even allowing for the widespread employment of oxen for ploughing. Of cattle they have 25 per cent. more absolutely, but only half as many relative to the productive area; of sheep about three-fifths of our stock, and nearly twice as many pigs.

So far as food-stuffs are concerned, France, indeed, is the most self-contained of all European countries that are at all industrialised.

She has nearly $1\frac{1}{2}$ million hectares under vines. How much the vine is a Mediterranean product may be inferred from the fact that while Spain has about the same area under vines as France, and Italy about three times as much as either of them, Germany has very little ground devoted to vineyards. In France, accordingly, the vine districts are mostly in the Southern half of the country. Her great area under vines and the great number of winepresses implies that France is in the position in which we were when we grew all the barley needed for our beer and whisky, and when most of the ale was home brewed. Our brewing is now done on the same lines and on the same scale as our milling and wheat importing.

These differences reflect themselves in the respective parts played by capital and labour in the agriculture of the two countries. We achieve more by capital and less by labour. The French, working under their conditions, have far more labour on the land than we have. This is why the War has affected the agriculture of continental countries more than ours. We have all felt the loss of capital—as shown in the decreased supplies of feeding stuffs and fertilisers, which were objects of international exchange.

From our point of view, the huge supply of labour which the great number of small holdings in France involves, is to a certain extent wasted labour, doing what under our system is done better because the labour is the co-efficient of greater working capital used per acre. But all this is largely incidental to the fact that in France all food is raised far more for purely local markets than with us, and to the widespread ownership of land. The agriculturists are many because the landowners are many, and the manifold division of land as a heritage means that the unit of farming is also small.

Certainly France has had a movement of population in the latter part of the nineteenth century, which has taken the form of concentration in certain industrial districts and consequent rural depopulation in others. Thus the Departments of the Nord and Pas de Calais, of the Seine and Seine et Oise (Paris), of the Rhône (Lyons), Bouches du Rhône (Marseilles), Gironde (Bordeaux), have all increased, but not in the way that at an earlier date our industrial districts increased, and as still more recently the same thing has happened in Germany. Further, the industrial development of certain regions in France has not stimulated the birth rate in these districts to the same extent as happened in Great Britain or Germany. As in the case of London, the French populous districts are recruited from the rural areas. So far as it has gone, however, the changes in the distribution of population in France have tended to cause a certain specialisation in agriculture, such as we have gone through, i.e. the concentration on feeding the populations of the industrial centres with such commodities as those for which their higher standard of living has caused a stronger demand—meat and dairy produce, vegetables and fruit. Our specialisation has been more determined by our policy of free imports. We have concentrated on the things that we are most favourably situated for producing. There has been something of this tendency at work in France, but her fiscal policy has tended to restrict the import of cereals, just as the German fiscal policy has tended to restrict the import of meat. Both France and Germany have seen with greater equanimity the weakening of their home production of wool in the face of "foreign" competition. To this, no doubt, they consented the more readily, as sheep farming tends to be a primitive kind of farming, and, as their agriculture developed, they were ready to abandon it in favour of more intensive forms.

In France, however, the growing specialisation of agriculture has been motivated to a certain degree by the development of the production of agricultural produce for export—and that to a certain extent "luxury" produce, i.e. flowers and vegetables and fruits either preserved or fresh at times of the year when they would

be out of season in the more Northern countries. This is in addition to the older export trade in dairy produce, and the products of "la basse cour." This, France has been able to do out of her infinite variety. It is an industry which implies the working up and preservation of foodstuffs, and here the French taste and finesse comes in, which differentiates her essays on these lines from the canning and packing industries of the Middle West, or again from similar handling of fish in North Germany or Scandinavia. Germany, on the other hand, has developed her agriculture mainly for feeding her huge industrial population with the elementary necessities—and her one export of a derived agricultural product is of sugar.

These two tendencies in the development of modern agriculture in France have had their influence in the direction in which rural France has most distinguished herself, i.e. in agricultural organisation. Hence her progress has been on other lines than those followed, e.g. in Germany, with which may be associated Belgium and Denmark.

In these countries, it is rather in the definite region of increased productivity through improvements in the technique of agriculture that progress has been most marked. Such improvements resolve themselves mainly into an increased use of artificial manures and of feeding stuffs and forage crops for live stock. On these lines, Germany, Denmark and Belgium (which was one of the earliest countries to give up the three-field system for the modern rotation) have progressed. It is noteworthy that in Germany, Schleswig-Holstein, the neighbour of Denmark, is a district of high production.

In yield per acre for cereals and root crops, Germany is ahead of France, and for oats and potatoes ahead of us. Attention has lately been called to the fact that Germany produces more crops and stock on 100 acres than we do. In fairness to ourselves, it should be remembered that on any given 100 acres, Germany has far more labour than we have. Thus in 1907, the number of persons occupied in agriculture in Germany was given as 9½ million—about one-third of the rural population. It is a little difficult to estimate the number of persons employed in agriculture among us. We know that we have one million agricultural labourers; probably another million of farmers, great and small, and their families, would more than account for the balance of the population working at agriculture. This is between a fourth and a fifth of the corresponding persons in Germany, and her productive area is to ours as 5 to 3. Hence it seems obvious that Germany has a population working at agriculture between two and three times as numerous as ours, after making allowance for her larger area of productive land.

At the same time, Germany is ahead of France in productivity, and her agricultural population is not much greater than that of France, the latter having between 8 and 9 million persons occupied in agriculture, which must be nearly one half of her total rural population.

It is noteworthy that Germany is ahead of France and ourselves in the yield per acre of root crops—potatoes and sugar beet. This may be due partly to her great wealth in potash—but at the same time potatoes require all the three varieties of artificials. Seeing that Germany has concentrated strongly on the chemical industry, it is not surprising that the knowledge and experience thus gained in a country which believes in education and applies science to practice, should find its way to agriculture. The sugar beet in Germany may indeed be looked upon as an industrial plant almost as much as a root crop. In this way it tends to play the same part (though on a smaller scale) by supplying raw material for sugar refining, as the raising of wool on sheep farms did for the textile industry, which was our traditional leading manufacture.

The heavier yields of crops per acre in Germany occur mainly in Saxony, Prussia and Hesse—with Prussia should be included for this purpose Mecklenburg. It is mainly then in North Germany, and there in Germany East of the Elbe as much as in the land West of the Elbe, that high farming exists. Germany East of the Elbe includes most of the larger holdings, i.e. over 250 acres or 100 hectares—for this area may be taken as the limit, and it is more suitable to speak of large holdings than large estates, because the two things tend to coincide in continental countries, and from our point of view it is incongruous to call an area of 250 acres a large estate, but less so to call it a large holding.

Here then is the strength of Germany. The growth of her great industrial population has stimulated production, and the scientific methods of other industries have reacted on agriculture. On a smaller scale, something of the kind has happened in Belgium.

The course of things has been otherwise in France. France has not the same concentrated groups of population in certain districts. Physically it is a more varied country. It has no area as uniform as the Great Northern plain of Germany. It has more mountainous land. On the other hand, it has a better climate and probably more good soil.

We propose then to describe briefly how France has met her own problems, remembering that in spite of certain collectivist leanings, the French temperament does not submit patiently to direction by the State. France, too, is one of the least homogeneous countries in Europe—half a dozen agricultural policies would scarce suffice to meet the various conditions of her different regions.

In the third quarter of the nineteenth century, the West of France, especially the Loire Basin, showed a great increase in productivity, as measured by the returns of cereal crops. This is said to be due to the favourable nature of the soil of this area to the action of artificial manures. At the same time, the increased cultivation of forage crops led to great additions to the cattle stock of the area. It was this process, begun in the second half of the century, that encouraged the great introduction of short horn blood into the French cattle strains of the day. The later developments of French agriculture are connected rather with the efforts made to maintain the industry in face of the falling prices that marked the end of the century. Certainly these efforts were marked with no little success. Thus between the periods 1891-95 and 1906-10, the wheat harvest in France rose from 105 to 120 million hectolitres, and this was due rather to an increase in the yield per acre than to an extension of the acreage. In fact, between the two periods, the yield per hectare (2½ acres) rose from 15·8 to 17·5 hectolitres. Similarly the production of potatoes passed from 103 millions of quintals, between 1880 and 1889, to 121 millions between 1890 and 1900, and to 131 millions between 1900 and 1909. During the earlier periods there was an increase of the area under cultivation (100,000 hectares), while in the third there was a contraction, but the yield per hectare rose from 79 *quintals* to 87 *quintals*. Again the area under forage crops increased from 400,000 hectares in the period 1890-1899 to 580,000 hectares in the decade 1900 to 1909—and this apparently not at the expense of corn growing, though possibly to some extent in substitution of ordinary agriculture for the growing of the vine. The yield rose correspondingly from 100 to 164 millions of *quintals*. All this was in continuation of a movement which has been going on from 1840 onwards. M. D. Zolla, Professeur à l'École de Grignon, from whose volume *L'Agriculture Moderne (Bibliothèque de Philosophie scientifique)* we take the foregoing statistics, quotes some extracts from a note published in 1911 by the *Office des renseignements agricoles* (a division of the Ministry of Agriculture), commenting on the development of forage crops and consequent progress in stock raising. "Alors qu'en 1892 les superficies consacrées, en France, aux cultures fourragères de toutes sortes occupaient 10,930,000 hectares, elles s'étendaient, en 1909, sur 14,135,000 hectares, soit une augmentation de 28 pour cent. Les rendements, durant cette même période, ont suivi une progression plus accentuée encore, puisqu'ils ont passé de 470,000 tonnes à 830,000 tonnes, soit un accroissement de 45 pour cent en moins de vingt années. Sous la poussée des circonstances économiques, les cultivateurs ont constaté qu'en dehors du travail et du fermier, le bétail pourrait permettre de réaliser des bénéfices très appréciables, s'il était exploité en vue de la production du lait ou de la viande."

The progress in the raising of stock was marked more by an increase in the dead weight of the animals than in the numbers of stock. The following table shows the latter increase :—

	CATTLE.	SHEEP.	PIGS.
1862	12,811,589	29,529,578	6,037,543
1892	13,364,434	21,504,956	6,337,100
1909	14,297,570	17,357,640	7,505,050

In this connection it is necessary to remember that in modern stock raising precocity is aimed at, and therefore that the average life of an animal destined for slaughter is shorter than it was a generation ago. Hence statistically (for mere counting of heads) two beasts will only count for as much as one did 60 years ago. The following table brings out for cattle the "Poids net moyen de l'animal en kilogrammes."—

	1897.	1898.	1899.	1907.	1908.	1909.
Boeufs	370	377	390	402	404	417
Vaches	282	288	288	343	362	378
Taureaux	403	399	387	430	440	446
Veaux	78	74	79	89	90	98

Again the average weight per head of slaughtered pigs rose from 76 to 104 kilos. between 1899 and 1909, during which period the number of pigs increased by 1,000,000.

M. Zolla remarks that though the number of head of sheep fell from 21,357,000 in 1899 to 17,357,000 in 1909 (or a drop of 4,000,000), the average weight of meat per carcase rose from 20 to 29 kilogrammes, which, on the assumption that one-fifth of the total numbers of sheep are slaughtered yearly, gives an actual increase in the amount of mutton obtained. Apart from this consideration, it may be said that in countries where agriculture becomes progressively intensive, a decline in sheep stocks is usually observable. It has been quite marked in Germany. If in France there has been an increase in the acreage under hay and forage crops without a decline of the area under cereals, one may assume that the land now used for such purposes was formerly in sheep runs. The decrease in sheep stock is also due partly to a decline in the number of shepherds. We were told at Grenoble, that in the Department of the Isère, a practice which had formerly obtained of letting lands of the mountain communes as summer grazings to graziers who brought sheep from Provence was on the wane.

Generally one may say that French agriculture in the last generation has undergone a certain specialisation such as has taken place elsewhere in Western and Central Europe, due largely to the rise in the general standard of living in communities, especially those in which there has been a considerable industrial development. More meat is eaten under these conditions and, like ourselves, the French have concentrated more on stock raising and dairying. This process of specialisation has been accompanied by the elimination of certain kinds of culture owing to the increase of Colonial sources of supply and cheapening of transport. It does not follow from the maintenance of their former area under wheat that the French have not given up any of their former products—for they have largely abandoned flax and similar crops in the face of victorious competition. Thus, according to the *Procès-Verbaux sur l'Etat de l'Industrie Textile* of 1904, the area under flax in 1860 was 117,000 hectares and in 1900 it was only 21,260 hectares.

Apart from the influences of demand and the elimination of relatively unprofitable products, specialisation has followed the lines which the existence of a great number of small holdings dictates, such as market gardening, fruit and flower growing. It has been pointed out that the division of land in France, due largely to the French law of succession, tends to encourage intensive cultivation. This division helps to ensure a plentiful supply of labour, which again favours the kinds of operation requiring minute attention, watchfulness and care. When we say that labour is abundant, we do not mean hired labour, since, except in the districts where large holdings worked by capitalist farmers employing specialised labourers at fairly high wages are common, there is a lack of such labour.

So far as progress in agriculture depends on specialisation, and this in turn tends for many purposes to standardise a larger type of holding, the existence of small holdings in great numbers as in France, South of the Loire, may be thought to be connected with a state of things prior to such progress. Certainly in such a district

as the South-West, it is difficult to avoid the impression that the culture on a single holding is too many sided. Different kinds of cereal and forage crops will be grown, a few cattle and a few sheep with minor stock will be kept, and the vine will be planted—all on a holding of 30 acres. In the wine-growing districts, there has been a certain justification for not putting all the eggs into one basket, as in the days when phylloxera was ravaging vineyards, the holder, who had some vines with other crops, fared better than his neighbour who had all his holding planted with the vine. The variety of cultures on French agricultural holdings is also connected with a difference between the French and the British climates. The greater area of permanent pasture in the United Kingdom gives a greater appearance of uniformity to our agriculture. Our recent experience has taught us that it does not pay (except under temporary conditions) to grow oats in districts where there is no certain prospect of reaping the harvest. Now in France, there are few districts where the husbandman cannot be sure of reaping his harvest, and that too at a fairly early season of the year. In certain districts, it is drought rather than rain or cold that he has to fear. With us, on the other hand, it is not difficult to form good pasture in most parts of the Western half of Great Britain and the greater part of Ireland, and even where we have relatively little permanent pasture, as in the East of Scotland, half of the land under rotation will be in grass crops.

Hence it is no great virtue on the part of the French to grow forage crops to feed their stock. They are following the line of least resistance. There are few parts of France in which "prairies naturelles," or meadow land, are not more valuable than ordinary arable land, while market gardens and vineyards command a higher price than either.

Another tendency in French life must be noted as affecting agriculture, or at least the rural districts—the well-known migration to the towns and the decay of rural industries. The latter process has been more recent in France than with us, but it has gone far in many districts. Even where such industries were not closely connected with agricultural processes, they affected agriculture by maintaining in rural districts a constant element in the local population, which at once gave a near market for produce and afforded a reserve of labour for the heavy seasonal operations of husbandry. The withdrawal of this class has forced the French peasant to work for more distant markets, involving all the necessary organisation of transport, sale and distribution on a larger scale. The progress of the last generation, depending largely on the adoption of the methods of scientific farming as applied "to the improvement of the soil, of cultivated plants, animals and of machinery," has been achieved in a country, the agricultural land of which is held mainly in small holdings. No doubt State organisation has had a good deal to do with these results. The State can afford to train and employ picked intellects to develop advanced ideas, and French Governments have done so as a matter of policy, but all this might bear little fruit, if the agricultural community remained un-receptive and unresponsive.

In France, the progress of agriculture in the last generation is attributed to the general formation of agricultural "syndicats"; indeed in a country containing great numbers of small holdings, such progress is impossible apart from association. This movement is regarded in France as one of social and economic significance. Considering that in France the majority of the population is rural or in small towns while ours is urban, the movement is of as great importance as the British Trade Union movement. The point of the parallel will be lost, if it is not kept in view that in France the majority of the cultivators of the soil are socially nearer to the working than to the employing class, that there is a solidarity throughout the industry, which does not exist among us, since the great majority of the agricultural labourers in France are tenants or owners of a small piece of land themselves—a great distinction being drawn in France between the agricultural "journalier" or day labourer, who may have a little land himself, and the "domestique," who is nearer to the Scottish farm "servant," as he is still called, with an implication of a relation that is now passing away. There were in France older agricultural bodies such as "comices" and "sociétés d'agriculture," corresponding to our agricultural societies and associations, and working on the same lines as the Highland

and Agricultural Society in Scotland. As the Marquis de Marcillac remarks in his little work *Les Syndicats agricoles* with reference to these earlier groups:—

“C’était en effet l’élite du monde rural, des agronomes plutôt que la masse des exploitants du sol et moins encore les simples ouvriers, que l’esprit d’association avait amenés dans ces groupements, tandis que dans les classes moyennes de la culture, l’association était réalisée par le régime du métayage et du colonat partiaire.”

The same author continues—

“Mais après une période de prospérité l’agriculture traversait une crise redoutable ; le caractère académique des Sociétés d’agriculture et des Comices était impuissant à la conjurer. Une situation économique nouvelle exigeant l’abaissement des prix de revient, l’augmentation des rendements, la recherche de nouveaux débouchés, la nécessité de se protéger contre les accidents, contre la fraude, contre les aléas, de perfectionner les méthodes de la petite culture, nécessitait une autre forme d’association plus étendue, plus ouverte, rendant des services économiques plus immédiats, ne restant pas étrangère aux problèmes sociaux qui de l’industrie s’étendaient directement ou par voie d’incidence jusqu’à l’agriculture.”

It so happened that, in 1884, a law was passed repealing a law of the Revolution dated 1791, which forbade the association of citizens of the same profession for the purpose of promoting their economic interests.

Article 2 of the Law of 1884 enacts—

“Les syndicats ou associations professionnels, même de plus de vingt personnes exerçant la même profession, des métiers similaires ou des professions connexes concourant à l’établissement de produits déterminés, pourront se constituer librement sans l’autorisation du gouvernement.”

Article 3 runs—

“Les syndicats professionnels ont exclusivement pour objet l’étude et la défense des intérêts économiques, industriels, commerciaux et agricoles.”

Apparently the insertion of “agricoles” was due to an amendment while the Bill was going through the Senate. The Comte de Rocquigny remarks that “ce point de notre histoire parlementaire est bien connu : il offre l’un des plus frappants exemples des conséquences inattendues que peut produire le vote d’une disposition législative.” The Bill was concerned primarily with the interests of industrial workers, and it was only in the last session of the Senate that the Senator of the Department of Doubs proposed the additional words expressly including agriculture. In the sequel, no industry has availed itself more of the provisions of this law than agriculture. M. de Marcillac is careful to point out that in agriculture advantage was taken of this law not for the purpose of pushing the class war, but in the spirit of “l’union des classes et de la paix sociale.” The Comte de Rocquigny in his book *Les Syndicats Agricoles et leur Oeuvre* mentions that the larger “syndicats” in particular have lived up to the principle “de la neutralité de l’agriculture, en réunissant pour la défense des intérêts professionnels les représentants des opinions les plus contraires, en établissant entre eux des rapports de bonne entente et de solidarité dans l’action commune qui sont précieux pour la consolidation de la paix sociale.” The “patronat” in agriculture entered into the movement heartily. “Il n’existe pas à proprement parler un patronat distinct du prolétariat agricole”—except in certain districts where “cultures industrialisés” both in North and South exist. Thus there were formed in certain departments of the Centre of France where plantations are numerous, as long ago as 1891, “Syndicats d’ouvriers bûcherons et travaux similaires,” which were pure trade unions. The first groups vanished, but they were revived some years later. Again, in some departments of

the Midi, there were in 1903 and 1904 numerous strikes on the part of employés in the vineyards, as, in consequence of the bad vintage of 1903, wages were lower and there was a great deal of unemployment. This led to the formation of 200 "syndicats d'ouvriers agricoles" in the South.

The movement in time spread to the North of France. These pure workmen's unions, however, only form an incident in the whole movement. In fact, in agriculture, so far as the work of professional associations is occupied in defending the economic interests of the cultivators of the soil as against any other class, it is not against the "patronat" but against the middleman and, in a sense, against the town consumer that it is on the defence.

The aim of the "syndicats" has been described by the "Syndicat agricole et viticole de l'arrondissement de Chalon-sur-Saône" as "un terrain neutre, sans étiquette politique, sur lequel toutes les personnes soucieuses de l'avenir de l'agriculture française doivent se tendre loyalement la main, afin de travailler de concert à l'amélioration du sort des populations rurales."

In organisation the "syndicats" do not resemble Trade Unions—that is to say, the unit of association is geographical; the composition of the "syndicats" is on a basis of occupation, but within the general occupation of agriculture the "syndicats," except to a slight extent, are not composed of different classes within the whole occupation. Early in their history, there were questions as to whether the area of the "syndicat" should be small, such as a "commune," or large, such as a department or "arrondissement." Experience has shown that it is wiser to start with the local "syndicat" as the "cell" of a larger organism—and the early "syndicats" which set out to cover a wider area, have applied themselves to creating smaller "syndicats" within the area, or have restricted their activities within narrow limits. The former of these procedures has been followed, *e.g.* in Champagne, the latter in les Basses Pyrénées.

Naturally, groupings of the local "syndicats" have followed. M. de Marcillac mentions some of the "Unions" thus formed. Thus the South-East Union included 469 syndicats in 1912, principally round Lyon, in the Rhône Valley, and Savoy, representing 120,000 rural families.

The Union of the Alps and Provence covers the Lower Rhône Valley on the Mediterranean Coast and includes 300 "syndicats." It has principally occupied itself with the promotion of co-operation. The "Midi" Union is based on Toulouse as its centre. The former Union of the South-West stretching from the Spanish Frontier to a point North of the Valley of the Charente was found too large and was broken up into three Unions. The Central Plateau (Auvergne) is the area of another Union. In the East, there are the Unions of Burgogne and Franche Comté, with its headquarters at Dijon, of Lorraine, with its headquarters at Nancy. In the Centre, West, Anjou, Maine and Normandy, the formation of Unions was slower, as in these regions, where large holdings are more common, the impulse towards "syndicalism" is not so strong. Generally the whole of France is covered by such Unions except two well defined areas in the Northern part of the Central Plateau, and the North-East from Paris to the Ardennes, the Valley of the Marne and the East Frontier from the Ardennes to the Vosges.

By the end of 1912, 2405 "syndicats" were affiliated to the Central Union. M. de Marcillac calculated that at this date a million families of cultivators of the soil were associated in this fashion. By 1916 the number of "syndicats" had risen to 4000. Though we have compared the "syndicalist" movement in French agriculture to the British Trade Union movement, in their activities they have come nearer to the Friendly Societies common in the Midlands of England and the co-operative societies of the North of England and Midland part of Scotland, having, in fact, combined the functions of these two classes of institution, and as co-operators, extended them to cover co-operative sale and production.

The "syndicats," in fact, have carried out the purposes for which they exist, partly by their own direct action, and partly by creating special organs for specialised functions. The early ones started as societies for the co-operative purchase of agricultural requisites, and they may be said to have carried this service as far as is possible. The first "syndicat" (Loire et Cher) was formed at Blois in 1885 for the purchase of "artificials" and to guarantee its members against frauds in the supply.

In 1908, this "syndicat" numbered 10,000. It is noteworthy that it was formed largely on the initiative of the Departmental Professor of Agriculture, who saw that the unfamiliarity of the peasant with this kind of goods made him suspicious about using them.

Our authorities on the subject distinguish between two main kinds of service undertaken by the "syndicats," viz. (in the words of M. de Rocquigny)—

1. les services d'ordre matériel rendus à l'exploitation du sol ;
2. les services économiques et sociaux rendus aux populations rurales.

The "syndicats" differ from any groups of agriculturists in this country by being primarily "practical" rather than "political," and with this quality is connected their origin as local corporations.

Under the head of (1), the "achat en commun" of chemical manures and subsequently other requisites was at first their leading activity. The "syndicats" in this business either apply the principle of collective bargaining, allowing their individual members to carry through the purchase with the merchants, or buy in bulk to resell to their members, in this latter case representing themselves as agents for their members, as a defence against the criticism that they are engaging in trading, from which they are apparently interdicted. By their efforts, they seem to have brought down the price of phosphatic manures by 40 per cent. to 50 per cent., and to have spread the use of chemical manures very widely.

M. de Rocquigny admits that the "syndicats" have been less successful in the co-operative sale of agricultural products. It is not easy for "syndicats" to find individual customers—and if they do, it is not always easy to guarantee delivery by their members. This is a very different matter from marshalling orders for manures; nor have attempts to supply regularly urban co-operative societies or public departments dealing in agricultural products been too successful. Still the "syndicats" have done a good deal to stimulate the sale of fruit, vegetables, flowers, dairy produce, poultry and eggs, in some cases by organising the collection and despatch by rail of such commodities.

In one way and another, the "syndicats" have also done much to extend the use of agricultural machinery, by special shows, or demonstrations of their use, or placing them in their depots. They have in turn exercised a great influence on the makers of agricultural machinery. They have also acquired certain kinds of machines, especially those which are too expensive to justify their purchase for working solely on individual holdings, and hired them out at a low charge to their members. Thus some "syndicats" have acquired travelling threshing machines, costing £400, and sent them round their district, sometimes borrowing the money and fixing the charges for use so as to repay the loan. M. de Rocquigny relates an interesting case of co-operation between a Savings Bank (of the Department of the Bouches-du-Rhône) and a "syndicat." The Bank, wishing to benefit by its funds the local agricultural community, to whose thrift their existence was due, invited the local "syndicat" to undertake the purchase and supervision of machinery for use in the district, for which purpose 1200 francs was advanced. The experiment succeeded so well that the "syndicat" in four years had bought machinery to the value of 8000 francs, nearly half of which had come from the Savings Bank. A special group of "syndicats" have been formed on the lines of the "Syndicat agricole Pyrénéen" at Tarbes (Hautes Pyrénées) for popularising the use of modern machinery. Apparently in this district, a "syndicat" of this kind is enabled to carry on its work by getting credit from a local "caisse rurale" of the Raiffeisen type. The "syndicat" becomes a member of the credit society, and with the massed security of all the members of the "syndicat," is able to get advances from the credit society. "Syndicats" of this type have spread over other parts of France.

The improvement of stock is also within the scope of the activities of "syndicats." The purchase of feeding stuffs has been undertaken—especially in years of drought—and this function has been used to introduce a more scientific style of feeding. "Syndicats" have also introduced sires of superior breeding and started stud books. This work has been particularly marked in Franche Comté and in the Vosges and Burgundy, being undertaken for the improvement of the local breeds of cattle. A curious experiment in co-operative stock raising was made in the Department of

Charente in 1891, when the inhabitants of this district were turning to other kinds of agriculture after the ruin of their vineyards. The society consisted partly of actual graziers and partly of other members, who helped to provide the funds. The grazier, who had to contribute to the society at least a tenth of the amount which was to be intrusted to him to buy stock, bought and reared or fattened the stock, acting as the agent for, and a shareholder in, the society. When the cattle were sold, after the original purchase price was repaid, one third of the profits went to the society and the rest to the grazier.

Remedial measures for the assistance of the harassed vinegrowers have been undertaken with great thoroughness by the "syndicats" of vine-growing districts; and they have taken up in a truly scientific spirit the problem of placing vine growing on a new and sound basis. As M. de Rocquigny puts it:—

"Engrais spéciaux pour la vigne, tourteaux, instruments et outils, sulfate de cuivre, soufres et insecticides, raphia, échalas, piquets, fil de fer, matériel vinaire, sucres pour vendanges, acide tartarique, etc., tous les produits divers employés par les viticulteurs leur sont livrés dans les conditions si favorables de prix et de qualité qui caractérisent les achats traités par les syndicats. Mais, en dehors de ces opérations courantes, l'influence des syndicats a été considérable pour enseigner à leurs adhérents les connaissances techniques et pratiques sans lesquelles la culture de la vigne, assaillie par tant de fléaux, ne saurait être productive, préparer et faciliter l'œuvre de la reconstitution des vignobles phylloxérés, améliorer les procédés de vinification et combattre les causes de mévente des vins."

Among the conspicuous services of the "syndicats" has been the organisation of the purchases of fresh American plants for restocking the areas in which diseased vines have been grubbed, and the planting of nurseries of healthy vines. Similarly they have taken great pains to put the processes of the vintage on a better footing by setting up co-operative winepresses. The organisation of such "caves co-opératives" follows the lines of similar institutions in Italy, Germany and Switzerland. Research and education in the scientific treatment of the vine have been conspicuously undertaken by the "syndicats" of the Haute Garonne and the Gard.

Among the "services économiques et sociaux" rendered by the "syndicats," may be mentioned the promotion of agricultural education, co-operative production, agricultural credit, insurances against accidents, against mortality among stock and damage to crops, "prévoyance" and assistance to agriculturists against the uncertainties of their life and calling, including old age pensions. Altogether one may say that within the State the "syndicats" have exercised, for the benefit of those engaged in the occupation of agriculture, most of the activities which the modern democratic State engages in for the benefit of the majority of its citizens.

Apart from popularising agricultural knowledge, and by linking up their practical work with a dissemination of theory turning themselves into schools of mutual instruction, the "syndicats" do a great deal by way of organising research and experiments. The Departmental Professor of Agriculture, who is now the Director of agricultural services for the Department under the Ministry of Agriculture, is often associated with the "syndicats" or a group of "syndicats" as an executive officer, or a special professor is employed by them, as *e.g.* by the "syndicat" of the Charente Inférieure who have made him the director of their chemical laboratory, and a similar arrangement has been made by the "syndicat" of Meaux. M. Viger, Minister of Agriculture (quoted by M. de Rocquigny) in a speech made at Poitiers in 1899, congratulated the "syndicat" of the Department of the Vienne on having so popularised the use of "artificials" by their practical and educational work that, within a dozen years, the consumption of "artificials" had risen from 200,000 to 300,000 kilogrammes to 30,000,000 kilogrammes, of which at least a third was supplied through the "syndicat."

The "syndicats" have also tried to give something of what has been called the "rural bias" to elementary education in rural districts. Here they seem to have been more successful with the "free" ("denominational") than with the public schools—possibly they would have interfered too much with the "synchronised time table" of the latter, which used to be the pride of the French Ministers of Education. Here a "syndicat" in Brittany led the way.

The "syndicat" of Poligny (Jura) founded one of the first co-operative credit societies for agriculture in France—but the majority of the institutions

of this kind in France, founded by popular initiative before the inception of the State schemes were due to a movement independent of syndicalist action. The State scheme introduced by M. Méline, however, implied an intimate association of agricultural credit with the "syndicats," as the new "caisses locales" could only be formed by members of "syndicats." Later when the "caisses régionales" or regional land banks were formed, it was often the Union of "syndicats" for a Department that set them up. In course of time, the actual administration of agricultural credit has come to be recognised as a matter which the "syndicats" should leave to the special credit institutions, local and regional, which have now been formed all over France.

Insurance against hail is important in some districts to vine growers—but insurance against "la mortalité du bétail" touches the small holder generally as a matter of great concern. This purpose has been served by the formation of great numbers of small mutual insurance societies. As M. de Rocquigny says, their resources are strained severely when there is an epidemic of disease—to meet this contingency, the "syndicats" have in some districts organised federations of these local societies, and so distributed the liability.

The "syndicats" have also acted as friendly societies, establishing sick benefit and other forms of mutual assistance for their members, and in some cases have, to a limited extent, provided old age pensions.

These manifold activities of the "syndicats" and their remarkable growth over the great part of the agricultural districts of France have led competent observers to use enthusiastic language about them. M. Baudrillart speaks of their development as "le fait économique le plus remarquable du siècle" (*i.e.* 19th). Le Comte de Chambrun, who aided their work, generously describes them as "le chef d'œuvre de la sociologie." M. Georges Maurin declares, "c'est l'âme même du peuple rural de France, c'est son intellectualité future qui s'élabore dans nos syndicats agricoles."

It is not our business here to consider the "syndicats" and their unions as a "new birth of time," a great corporate institution arisen in the realm of France, interesting as are the speculations which such a line of thought might evoke. The unions have carried the policy of federation further since the War, and this visible sign of the massed strength of the agriculturist, the more conspicuous at a time when the high price of food stuffs has exasperated the inhabitants of cities, may tend to excite something like a conflict between town and country in France. So far as the "syndicats" support any political programme, it seems to be of an agrarian complexion, favouring the maintenance of customs duties rather than the imposition of an income tax, which offers a good test of their attitude towards the tendencies of modern industrial democracy. Even apart from the lines of division thus indicated, there is a standing disagreement between the peasant and the collectivist industrial worker in France and Germany. The existence of the peasant proprietor in large numbers is in itself a solution of the problem of the equal distribution of wealth on lines irreconcilable with those of Marxist collectivism, and as such, forms at least a passive obstacle to the general acceptance of the latter creed, especially as it offers no obvious field for the evolution of capitalist industry. The continental socialist has at his disposal all the arguments against the economic soundness of the small holding that could be most eagerly appropriated by the established classes of agriculturist in this country. The existence of a "proletariat" is a fact of which all classes are more conscious in a community where the peasant proprietor is numerous. In Great Britain, where the peasant proprietor has vanished, the fact of the existence of the proletariat is unnoticed because it is general and there is no other prominent fact to contrast with it.

The two social groups, however, exist side by side on the Continent, and the marshalling of the peasant in a federation of "syndicats" may come to be feared in some quarters as the creation of a state within a state, and the old law of the Revolution, which had to be repealed before the "syndicats" could be formed, may be held to have been justified. The same type of controversy tends to arise from age to age under different forms of government, and the children of the French Revolution preserved the traditions of the central power under the new régime, much indeed as the revolutionary governments in Germany and Russia seem inclined to do. Robespierre was as little inclined to let the Girondins have auto-

onomy under a federal republic, as Richelieu was to let the Protestants maintain a separate realm from La Rochelle.

Let these political possibilities however ripen as they may: we are more immediately concerned with indicating the significance of the "syndicat" movement as an achievement of agricultural organisation. In industrial and commercial countries, we are now familiar with strong Trade Unions and powerful combinations of employers, and with Trusts and Cartels to "regulate" prices for the consumer. In France, however, we have the spectacle of organisation on a similar scale in agriculture (an industry carried on in millions of small undertakings), and that too an organisation of plastic and adaptable character, equipped for meeting a great variety of situations and solving a great number of problems, operating indeed with something of the spontaneous resourcefulness of the "creative evolution," as conceived by the first of modern French philosophers.

AGRICULTURAL CREDIT.

We have been led to dwell at some length on the rise of "syndicats" and on the nature of their activities, as the movement has a close bearing on the subject of our inquiry. There are two elements in the organisation of agricultural credit in France. It started as a spontaneous activity on the part of the agricultural community. Then the Méline administration began to interest itself in the movement and induced the legislature to pass a bill facilitating its progress. The upper part of the whole structure may be said to be due to the intervention of the State with financial assistance, and "surveillance" by the Central Administration.

It was the spirit of association as manifested in the "syndicatif" movement, which created a favourable atmosphere and indeed helped to fashion the organs of agricultural credit. Speaking of the earlier stages in the development of "syndicats," M. de Marcillac observes:—

"Mais pour remplir ces fonctions avec efficacité, un nouvel organisme est nécessaire; c'est la caisse de crédit. Reposant sur l'institution co-opérative, sur l'estime et la connaissance mutuelle des syndiqués, inspiré par l'initiative privée, le crédit mutuel co-opératif constitue un puissant instrument de développement économique, un agent de prospérité du syndicat agricole et des diverses associations qui s'y rattachent."

It was on these lines, we are assured, that the first local co-operative credit societies purely for agriculture were formed. There were already in the field a number of "caisses rurales et ouvrières à responsabilité illimitée," the union of which was founded by M. Louis Durand. The "syndicats" had their eyes on the working of these institutions, and in 1894, the legislature passed a law authorising the formation of such societies (on easier terms than the existing relative statute allowed) solely for the purpose of furthering agricultural production.

The Durand "banks," of course, had a wider scope. The fundamental condition of the formation of this new type of society was that it could only be constituted by members of an agricultural "syndicat" or, as provided by the amending law of 1908, of an agricultural mutual insurance society. The societies were authorised by the law of 1894 to receive deposits and raise loans to increase their circulating capital. The capital of the society was not to be held in "actions" (holdings of outsiders), but in "parts" (*i.e.* shares held by the members). The society could only be constituted when a fourth of its capital was assured. The "caisses," it will be seen, are based on share capital and do not necessarily rest on unlimited liability, which is the mark of the Raiffeisen Bank. The condition that they can only be constituted by members of agricultural "syndicats" or mutual insurance societies facilitates their formation in an agricultural community, in which the practice of association for economic ends is already established. This suggests the greater difficulty in founding such institutions where co-operation otherwise is but little known.

The immediate function of the "caisses locales" was to give the small holder or "paysan" short term credit, or stated more technically, to put into circulation agricultural paper. As Professor Gide remarks, the agriculturist needs such credit

even more than other kinds of producers or merchants, since on the whole he has to wait longer to realise his profits. The "paysan" may not have enough cash in hand to buy stock or "artificial," feeding stuffs or seeds, or to pay for special seasonal labour. In France too, especially in the South, the special needs of the vine-grower have to be kept in view. He is an agriculturist who gets his return all at one time in the year, and is at the mercy of "middlemen" for the supply of sugar for the actual fermentation of the grape juice.

Apart from such regular needs, a small holder may have to meet sudden irregular calls, such as may be caused by accidents and bad seasons—one cannot insure against everything—or the markets may be against him. The "caisse locale" is prepared to make an advance to any of its members. The transaction is much like that of discounting a bill, as the normal period is three or six months (with possibility of renewal), determined by the duration of the operation to facilitate which the advance is made. Thus if an agriculturist is using an artificial manure in the autumn, he may get an advance for a year, if in the spring, for six months; if he wants to hold back a crop for a rising market, he will get an advance for three months. Any application for renewal will only be entertained if accompanied by a payment on account. The applicant is required to find one guarantor, or definite securities, or an agricultural warrant such as has been devised for this purpose in France.

It is to be noted that "syndicats" and agricultural co-operative societies which supply their members with materials, implements and stock, co-operative production societies and mutual insurance societies can get from "caisses locales" short term credit for purposes analogous to those for which such credit is granted to individuals. Credit is only given to "syndicats" who have contributed a certain amount of the capital of the "caisse," and in proportion to the amount of such contribution. Such credit is designed to enable "syndicats" to pay cash for their orders while waiting to be reimbursed by their individual members, and accordingly should not exceed three months. Apparently the "syndicats" got such credit before the war, at four or four and a half per cent, whereas they would have been charged at a much higher rate by the dealers. The advances to co-operative societies are usually made to enable them to pay their members at once for products sold co-operatively. It is natural that such societies should be expected equally to deposit their funds with the "caisse."

The "caisse locale" gives the borrower a "billet" which is discounted finally by a "caisse régionale." The normal rate of interest has been four per cent., high enough to allow a margin of one per cent. over the rate at which the regional bank discounts the negotiable instrument, this margin being required to meet administrative expenses and to help to build up a reserve.

The official documents which describe this system of credit emphasise three features, i.e., that it is decentralised, personal, and cheap. It is decentralised in the sense that the organ of the system is a small local society whose members know one another, and the system rests on their mutual solidarity. On this basis, the credit is necessarily of a personal character, and avoids the well-known disadvantages of mortgage loans. The "cheapness" in the French system is achieved largely through the intervention of the Government, which, in the eyes of some critics, leads to consequences inconsistent with a healthy decentralised system.

It is conceded that the law of 1894 did not lead to very much immediate progress. Such "caisses locales" as were formed did not succeed in raising much capital. So a law was passed in 1895 authorising Savings Banks ("caisses d'épargne") to devote a fifth of their capital and the whole of their income to financing the "caisses locales." Shortly after, a more fruitful step was taken when the Legislature stipulated, as a condition of renewing the charter of the Bank of France, that the Bank should advance to the State for the whole term for which its charter was renewed, a sum of 40,000,000 francs.

In order to distribute this sum, which the Legislature did not care to place at the disposal of such "caisses locales" as then existed, "caisses régionales" were instituted in accordance with the provisions of the law of 1894 under a law passed in 1899. The immediate function of the "caisses régionales" was to discount the negotiable instruments presented by members of "caisses locales" and guaranteed by the "caisses locales," and to put at the disposal of the latter circulating capital.

The "caisses régionales" can get the "paper" thus left with them discounted at the Bank of France or the great credit houses. The paper bears three signatures, that of the borrower, of the "caisse locale" and of the "caisse régionale." In 1900, a further law was passed enacting that the "caisses régionales" could receive from the State advances equal to four times the amount of their capital in cash.

The French Government has been criticised for this financial policy. Thus writers like Mr. H. W. Wolff regard it as inconsistent with the whole spirit of co-operative banking for co-operative credit societies—which is what the "caisses locales" are—to go outside their own members and their neighbourhood for the greater part of their capital. Returning to a point to which he had devoted a chapter in his book on co-operative banking, he says in his conclusion, "I hope that I have succeeded in making it plain that, so far from co-operative banks being mere specious tappers of outside treasure, acting as readily absorbent suckers in a pump, they are, in truth, one of the most valuable and effective institutions, not merely for the promotion of thrift, but also for the creation of capital generally that the world has seen. The creation of capital is distinctly one of their main objects, without the pursuit of which their entire work must become a failure—the creation of capital in the bank, that is, as well as in the possession of its individual members. A member who does not produce value, and does not in one shape or another make himself the wealthier by the use of the bank, would be a very unwelcome member indeed, and one that a co-operative bank might be willing to get rid of, just as it gets rid of 'dead accounts' on its books. Co-operative banks advisedly restrict their lending to purposes which aim at the creation of more value. And within the limits of their own transactions they make it their deliberate study to amass capital. What is the use, not so long ago, asked the organ of the Raiffeisen Union of Neuwied—which Union makes it its ideal principle to begin without shares altogether—of pretending that we are indifferent to the accumulation of capital? At the close of 1903 our 3061 societies, old and young among them, apart from share capital,—and apart of course from borrowed money—had no less than £386,488 laid up in their several reserve funds—money which absolutely no one else can claim a right to, which belongs solely to the bank. That is about £125 apiece in so many villages, money strictly earned by annual surplus in tiny businesses."

A similar train of thought seems to have led M. de Marcillac to make the following observations:—

"Celles-ci (les caisses régionales) avec le contrôle officiel auquel elles sont soumises, et comptant pour la plupart sur les avances de l'État, cherchent à grossir leur chiffre d'affaires afin d'accroître le montant de ces avances qu'elles placent trop souvent en valeurs et obligations; elles oublient le lendemain et le rôle social pour lequel elles ont été créées. Elles perdent de vue la nécessité de constituer des réserves importantes, elles manquent du stimulant nécessaire pour attirer à elles les dépôts, et faire fructifier l'épargne publique au profit de l'agriculture dans la région même ou cette épargne s'est formée. C'est par les dépôts que le crédit mutuel peut se développer et prospérer: dépôts des agriculteurs, des rentiers, des artisans se prêtant dans la province un mutuel appui; citons dans cet ordre d'idées la *Caisse de prévoyance et de Crédit du syndicat agricole Vauchusien* qui, avec 6000 francs de capital a prêté quatre millions à l'agriculture, grâce à l'abondance de ces dépôts et à la confiance qu'elle a su inspirer. Des caisses régionales importantes qui avaient donné des preuves de leur vitalité et qui s'entouraient des plus sérieuses garanties de contrôle songent aujourd'hui à s'affranchir des entraves qui leur sont imposées, en remboursant les avances de l'État pour recouvrer leur indépendance et ne pas émettre leur action, en la bornant à la sphère départementale."

In the case of long term credit to Co-operative Societies, however, there is a definite defence for State intervention. Thus an official survey of ten years of agricultural credit, 1900–1909, published by the Ministry of Agriculture, connects the encouragement given in this way to the establishment of co-operative societies of production with the more recent developments of agriculture, leading it, as we have seen, to

serve distant instead of local markets. The encouragement given by the system of loans must be looked upon as a piece of State propagandism.

The great mass of the operations of the "caisses locales" consist in short term advances to individuals in order to supply them with working capital. The French, however, regard the other classes of operation, for which the legislature at a later date authorised the use of the existing machinery and funds, as coming within their complete scheme of agricultural credit.

These are :—

- (1) Long term advances to co-operative societies for the production and sale of agricultural products ;
- (2) Long term advances to individuals to enable them to acquire, improve, transform or reconstitute small holdings.

Obviously we have here a different problem. The capital required is fixed, not working capital. The security will have to be different and the term of repayment longer. In order to qualify for assistance from public funds, a co-operative society of production must be affiliated to a "caisse locale," and its members must also be members of an agricultural "syndicat."

CO-OPERATIVE SOCIETIES OF PRODUCTION.

An administrative Order, dated 30th May 1907, prescribed the following as the operations which would qualify the societies undertaking them to obtain advances : "La production, la transformation, la conservation et la vente des produits agricoles, l'acquisition, la construction, l'installation et l'appropriation des bâtiments, ateliers, magasins, matériel de transport, l'achat et l'utilisation des machines et instruments nécessaires aux opérations agricoles d'intérêt collectif."

In order to obtain an advance, a Co-operative Society of Production must apply to a "caisse régionale," which in turn can only make one with the consent of the Ministry of Agriculture. The advance is repayable within a maximum period of twenty-five years, and an advance to any one society may not exceed an amount double the capital of the society. The total amount of such advances may not exceed one-third of the sums advanced yearly by the Bank of France to the Treasury.

The co-operative society has to give a bond to the State over the "immeubles" of their undertaking as well as the "responsabilité solidaire" of the members.

The "caisses régionales," employing their own funds for operations of short term credit, do not actually provide the loans to the societies, nor is the original sum of 40,000,000 francs, advanced by the Bank of France available for these advances, which are financed from the varying annual "redevances" made by the Bank to the State. The "caisse régionale," which takes a certain responsibility for the society, collects the amount due to the State, and charges interest at 2 per cent. as additional security.

The co-operative societies of production which obtained advances under the law of 1906, were principally interested in dairying or the wine industry, but there were some which maintained refineries for beet sugar, oil presses, and "entreprises de battage" (threshing machines). The societies pay no dividend, but interest at 4 per cent. to their shareholders. The "Caves co-opératives" are important, as apparently one of the troubles that the small vine grower has had to face in recent years has been the scarcity and dearness of sugar for fermentation.

The distrust already noted, of excessive State intervention in and control of agricultural organisation, finds expression in criticisms of this whole scheme, as bringing one side of agricultural co-operation under the control of a Department of State. The reply seems to be that, in this particular direction, the State has been doing propaganda work. Undoubtedly in France perhaps more than in most countries, the State has tended in recent years to come to the rescue of the agriculturists of a particular district or a particular branch of the industry assailed by some sudden disaster, such as the Seine floods some years ago, or as the recurring crises in the vine-growing industries. In any case, the amount advanced up to the end of 1913 to co-operative societies of production is much smaller than the

advances made for short term credit operations, *i.e.*, twelve millions as against seventy millions of francs.

But manifestly the installation of co-operative "creameries" (as they are often called in this country) is an integral part of modern dairying, which, so far as the making of butter and cheese is concerned, is mainly carried on for other than local markets, and groups of small producers might well be at a disadvantage in obtaining loan capital for their initial capital outlays in the ordinary market. Apart from this, the general procedure in making further funds available for such a purpose involves a smaller departure from the ordinary ways of the industrial world than the scheme of the typical co-operative credit society. There can be no question as to the progress achieved by co-operative dairying in two districts of France—illustrating by the way the tendency towards regional specialisation in agriculture already noted. Although in one of them (the Jura and Savoy) co-operative cheese-making societies go back to the Middle Ages, and in the other (the Charentes and Deux-Sèvres on the Atlantic Coast), the movement is a generation old, the French law of 1906 on "collective credit" has been freely applied in both of these. We propose to give a detailed account of the dairying industry in these two districts, regarding the extension of dairying by small holders in Scotland as one of the most hopeful lines of development for the occupiers of such holdings.

LONG-TERM CREDIT FOR INDIVIDUALS.

In 1910, the *Legislature*, at the instance of the Government of the day, decided to make use of the existing machinery of agricultural credit for a further set of operations, *i.e.*, the making of long term advances to individuals for the purpose of facilitating the acquisition, improvement, transformation and reconstitution of small agricultural holdings.

Successive Governments having considered the question were apparently satisfied that, under modern conditions of production and distribution of food stuffs, agriculture could be economically carried on by a fairly general system of small holdings. This being so, there was every social reason for maintaining the rural population on such a basis.

The previous laws dealing with agricultural credit had been designed in the words of an official pamphlet—"Assurer, par la mutualité, à la petite propriété des facilités d'exploitation égales à celles dont bénéficiait la grande propriété et la garantir contre les risques auxquels sont exposées les entreprises qui disposent de faibles capitaux et qui ne sauraient, par suite, résister seules à des aléas trop considérables."

The law of 1910 was also intended to a certain extent to supplement the laws of 1906 and 1908 on cheap dwellings, which had been taken advantage of mainly by working people in the neighbourhood of towns. It went further than the acquisition of new holdings and the enlargement of existing ones, for "improvement" (amenagement) includes such processes as reclamation, drainage and irrigation, "transformation," the conversion of a holding from one kind of culture to another, and "reconstitution," the process of repair after severe flooding or other damage caused by the forces of nature. The scope of the law did not absolutely exclude the liberation of a holding from an existing mortgage, but the Ministry of Agriculture warned the credit institutions that they were only to entertain applications for loans for such a purpose under exceptional circumstances, when such a step was necessary for constituting a new holding or preventing the disappearance of one. We are now familiar in this country with the creation of new small holdings and enlargement of existing holdings, under the Small Holdings and Allotments Acts in England, and under the legislation designed to promote land settlement in Ireland in the Congested Districts, and the Scottish Small Landholders Acts, 1886 to 1911. Again, some of the other operations sanctioned by the French law of 1910 are such as are scheduled to the Agricultural Holdings Acts as being suitable for execution by the tenants of agricultural holdings, though as being in some cases "permanent" improvements, as recognised by British law, they more naturally fall to be undertaken by the owner of the land.

There is a notable difference between the French Act of 1910 and the British

Small Holdings Acts. The latter Acts provide for the actual constitution of new small holdings on land previously otherwise exploited, and for this purpose prescribe the use of central or local public authorities, who have to create the holdings to satisfy the demand for them. In France, on the other hand, under the Act of 1910 no State machinery is devised for making the land available or adapting it. The "applicant" settles himself. All that is done from without is to give him financial assistance. In France land is held in small units and is always coming into the market in this form. Hence, apart from any greater simplicity in conveyancing law, land transfer is simpler and easier and a more every-day matter in France. A great many of the transactions facilitated by the recent law may, in fact, be nothing more than the maintenance in being of a holding by buying out the interest of a co-heir. In this connection it may be interesting to note that the Act provides for the constitution of a new holding required under its provisions as a "bien de famille insaisissable," in accordance with the terms of the law of 1907 making such settlements competent in France with consequent disability to mortgage them.

The maximum amount of an advance under the law of 1910 is 8000 francs, and the maximum period of repayment is fifteen years, which is stricter finance than our fifty and sixty-eight year terms. The "caisses régionales," however, have to repay in twenty years the advances made to them. The interest, however, is low—2 per cent.—and the loan is repayable by annuities.

For this type of advance not unnaturally real security is required, and that in addition to personal security. The credit institutions are, however, asked to consider whether they cannot be content with a second mortgage or with a deposit of a life insurance policy.

The "caisses régionales" are only entitled to receive as advances from public funds for the purpose of making loans of this kind, an amount equal to twice their "capital social." Nor can a greater sum in any year be placed at their disposal by the State than two-thirds of the "redevances" invested annually by the Bank of France.

Up to the end of 1913 nearly 15,000,000 francs had been advanced by the credit societies to individuals for long term loans. Though this sum is much less than the amount advanced for short term loans, it must be kept in view that the law of 1910 had then only been in operation for three years. We have thought it worth while to give some slight account of this class of loan, although there is no opening for anything quite on the same lines in Scotland, because the addition of this new class of work to the other functions of the credit societies goes to show that the machinery of agricultural credit devised in France has worked well. It has, in fact, been possible to place upon local societies work of a kind of which the nearest analogue in this country has been done by central departments or administrative authorities of the standing of County Councils.

We are now in a position briefly to review the French system—the experience of France is useful for us on account of certain of its features which can be best brought out by contrasting it with the history of co-operative credit in Germany, which is earlier in time.

In Germany the movement was in its beginnings popular and unofficial and less strictly professional than it has been in France. The Raiffeisen Banks in the country were the counterpart of Schulze Delitzsch Banks in the towns. In time there was a union of the Raiffeisen Banks, and this union, after a while, secured an arrangement with the Imperial Bank of Germany, whereby the latter gave it credit. Again in 1895, a central bank was founded in Prussia to give credit to all co-operative organisations, agricultural and others. It started with a capital of £250,000, found by the Prussian Government from public funds. This sum has been increased ten-fold mainly from the same source. The year 1895, however, is a long time from the early Raiffeisen Banks, and our main purpose is to show that, in Germany, co-operative credit for agriculture ran a long course before the State, or any State institution, intervened in its concerns.

The history of agricultural credit in France is of peculiar interest to Scotland as representing the most recent development in the system for affording the credit required to bring the numerous small cultivators up towards the level of modern agricultural production. Though, in a sense, the French system is largely the

creation of a few recent statutes, the agricultural community have relied mainly on themselves in building up the organisation of credit. This was possible through the progress already achieved in building up the "cadres" of associated action—the agricultural "syndicats" already described—and the Legislature in its laws built upon this foundation. Unfortunately we have nothing quite like it in Scotland. The Legislature recognised that typical credit, *i.e.*, short term credit, must be de-centralised, and therefore left the creation of the units of the organisation—the "caisse locale" to local and spontaneous effort; and the next grade of institution, the "caisse régionale," which was wanted as a link in the organisation, though sometimes described by critics as too official, has been similarly formed through the combined efforts of the various local communities within its sphere of operation. The Ministry of Agriculture and the Bank of France between them are a central institution, but they are so mainly for purely financial purposes. The "caisses régionales" and "locales" are in no sense branches of the Bank of France for one side of its activities, in the sense in which a British Joint Stock Bank might open branches in country towns. There may be a central reservoir of fuel, but the engines are all made locally.

The French system now has a logical completeness, which can hardly be pointed to elsewhere. The machinery, originally designed to give short term credit to individuals desiring more working capital, has been found useful for furnishing productive societies with fixed capital and enabling individuals to acquire or improve agricultural holdings. The framework of the mechanism, the numerous small "caisses locales," and the limited "caisses régionales," at least one to each Department, ensure local autonomy with federal union.

Further, in any case in a democratic country like France when Governmental action is spoken of, the words do not imply the same thing as in a bureaucratic country like India or Russia under the Tsars, where the wisdom of centralised government prescribes measures and creates institutions for an unenfranchised peasantry. In Western Europe, the Government and the Legislature intervene in social administration because public opinion demands it, and public opinion is articulate through the electorate, which, in a country like France, consists very largely of peasants. Even if we assume that France is mainly governed for a majority of purposes by the North of France, still the North has to "placate" the South, where the small holder exists in his thousands and is ever presenting to the Government such economic problems as arise through recurring crises in viticulture. "L'homme du Midi," indeed, is probably regarded by the men of the North, much as, in the British Isles, London and the Midlands have been wont to regard what used to be called the Celtic fringe with its fine assortment of agrarian problems.

This point, however, need not be further elaborated. Under our circumstances the Government must do a great deal, must in a way take the initiative, but the Government can only provide the environment. The plant must grow of its own inherent vitality and vigour.

AGRICULTURAL CREDIT IN ITALY.

Italy is a country in which a great deal has been done in the way of agricultural credit in the last generation—and though the German example has been followed in making a local co-operative credit society on the Raiffeisen model the normal unit, there are also parallels with French methods, and in certain directions Italy has contributed her own ideas.

There are two Italys. The distinction between North and South, which is real in many countries, is on the surface of things in Italy. The North of Italy, *i.e.*, the area where the mediæval republics and the communes were strong, Lombardy, Venetia, Tuscany, Emilia and Piedmont, is socially and economically on much the same level as her neighbours in France, Switzerland and South Germany. The South, on the other hand—the old kingdom of Naples and Sicily—is associated with the Bourbons, feudalism, latifundia.

The centre—Latium, the Marches, Umbria—is midway between the two. For agricultural development it is behind the North. According to a note in the

evidence of the American Commission, which enquired into agricultural co-operation and Rural Credit in Europe just before the War, in the North of Italy "the organisation of Credit was the result of a spontaneous movement among agriculturists who united for the purpose into co-operative societies (popular banks, rural credit banks, etc.) and provided for their own needs; while in the second (the South), owing to the weakness of private initiative, the State has been obliged to make provision."

By a series of laws passed early in the present century, provision was made for the establishment of Central and Local Credit Institutions. Thus "the Savings Bank of the Bank of Naples was authorised to engage in rural credit business in the Southern provinces of Italy," and a special rural credit section of the Bank of Sicily was formed.

These central banks could not well deal directly with the agricultural community, and for this purpose intermediate institutions were to be used, such as rural credit banks, popular banks and district or county agricultural associations. Various devices were tried by the Government to stimulate the creation of agencies of this kind. Their efforts have had considerable success, and the Central Banks give the local institutions cash credits. The principal operations thus facilitated are :—

(1) The rediscounting of bills drawn by the intermediate credit institutions against farmers who have received advances for various purposes in connection with the working of their land.

(2) The discounting of bills by these institutions themselves in the event of their needing loans to make collective purchases of agricultural materials and supplies, or to advance money to their members in the case of the collective sale of their produce.

The maximum amounts and term of repayment vary for the three different classes of purpose for which loans may be granted, viz.—

Up to 1000 lire repayable in one year if the loan is for cultivation, harvesting and the purchase of seed, manure and fungicides,

Up to 2000 repayable in three years for loans devoted to buying live stock, and

Up to 3000 lire repayable in three years for loans for the acquisition of machinery.

The loans are made to the local institutions at 4 per cent., and by them to their members at a rate not exceeding 6 per cent.

These arrangements apply to the areas served by the Bank of Naples and the Bank of Sicily respectively.

In the Basilicata and in Sardinia there is a third form of rural credit, which takes the form of advances of money or goods. "The Central Credit Institutions for these regions, instead of discounting the bills of the Intermediate Societies or issuing credit for their use, make direct advances to them in money or kind to a maximum amount of ten thousand lire repayable over a certain number of years; and the societies then make loans on their own account to their members."

Up to 1913, 73,250,000 lire had been advanced to various districts in Central and Southern Italy.

It is noteworthy how successful the rural banks, which are most common in North Italy, have been in building up their capital. There were about 2000 of these all over the country at the end of 1912. They had attracted deposits to the amount of nearly 100 million lire. To quote the American Report :—"In the course of time they build up a capital of their own . . . formed in part by the small fees paid by members on entrance or on effecting the first loan, but principally by the balances in hand at the end of each year, which are devoted almost entirely to forming a reserve fund." Deposits earn interest at 3½ or 4 per cent., and advances are made at rates varying from 5½ to 7 per cent. "The difference between the interest received by the banks on the loans and the interest paid by them to depositors and central banks provides for the expenses of administration, and constitutes a reserve fund which, in the event of the dissolution of a bank, is devoted to some work of public utility."

The other feature in Italian methods of agricultural credit is the making of advances in kind or to co-operative trading societies rather than to individuals.

Thus the little credit society of Bergamo makes advances largely in kind. The Agricultural Co-operative Society of Cremona is financed by the Cremona Popular Bank.

The People's Bank of Piacenza is said (in a statement made to the American Commission) to have assisted the growth of agricultural co-operation in all its different forms. "You see gathered together under one roof the different forms of association, so that this may truly be described as the home of agricultural co-operation in this province, the People's Bank, which supplies the credit required for these various activities, and which has made possible the other institutions for agricultural co-operative production and distribution." The People's Banks, common in Lombardy, and founded on the principles advocated by Luzzatti, "give open accounts for general purposes to the agricultural associations to be used at their discretion, and lines of credit for special purposes, such as the purchase of seeds, live stock and general farm requirements. These open accounts, granted for special purposes, are settled when the agricultural associations have made their settlement with the farmers. Another form in which these co-operative banks come to the assistance of farmers is the following: many farmers have a great objection to signing a promissory note; consequently the People's Banks, in order to facilitate matters, will accept from the agricultural associations the invoices for goods delivered to the farmers and signed by them." They also have direct credit accounts with farmers.

Again, the Florence Institute of co-operative credit discounts bills given by co-operative societies which could not directly obtain credit from the commercial banks. Similarly, the Agrarian Credit Institute of Latium supplies credit to agriculturists through the agency of various co-operative organisations and associations. The Agrarian Institute can also lend money directly to the farmers, especially when the latter reside in a district where there is no co-operative association. We have dwelt on this feature of the Italian system, because we think that it should be adopted in any scheme framed for Scotland. We should also like to draw attention to the fact that in Northern Italy agricultural credit has been organised spontaneously by the agricultural community, largely under the guidance of two men, Luzzatti and Wollemborg, and without any important intervention by the State, except in Liguria.

GENERAL OBSERVATIONS.

We hope that our survey of agricultural credit in France and Italy has been sufficient to bring out certain features, the presence or absence of which makes all the difference to a successful system.

Thus to a large extent the agricultural community itself must be at once the producer and the user of the circulating capital, and as the majority of advances are for a short term, a relatively modest amount of such capital will go a long way. This implies that the system shall be co-operative and worked locally. The agricultural community as finding the capital will only trust a credit society which belongs to the neighbourhood and with the management of which it can be in touch—and as the producers and users will be from the same community, the system must be co-operative.

From another point of view credit must be worked locally. For only a credit society having local knowledge could be trusted to make advances to the right persons—which is merely another way of saying that the organisation of credit must be based on mutuality. Hence no successful system of credit can be planted from without or imposed upon a community by a central authority or institution. In the last resort any credit institution must be set up by the community to be served by it. A central authority may do propaganda work and may help to supplement the loan capital which a community can provide from its own resources, but such central authority cannot do more than encourage the formation of credit institutions.

CO-OPERATIVE DAIRYING IN FRANCE.

We propose to deal with co-operative dairying in two districts in France, i.e. (1) The Charentes and Poitou, (2) Savoie and Jura.

We visited both these districts, the former from mixed motives, as it happens that the south-west of France is one of the parts where there has been a marked survival of "métayage," in which we were interested. As a co-operative dairying district, however, the district of the Charentes and Poitou (not a too scientific denotation, as the Charentes are Departments and Poitou is an old province) is complimentary to the mountain dairying districts of the Eastern frontiers, for while the latter are the great cheese-making areas, in the former it is butter that is chiefly made. Both alike, of course, are some way from any large market for the consumption of fresh milk: The Charente and Poitou area is almost half way between the lower Loire and the Gironde. It is a lowland area, and it is not unnatural to connect the existence of dairying districts in the mountainous and in the maritime districts of France (Normandy like the Charentes being near the Western Sea) with the favourable effect on pasture exercised by the respective Alpine and Atlantic influences. At the same time, it must be kept in view that in any lowland area in France the growth of forage crops for dairy cows will always be a greater feature of the dairy farming than in Cheshire or Ayrshire.

The Departments chiefly concerned in this west country dairying are the Charente Inférieure, La Vendée and Deux-Sèvres, the two former of these Departments stretching along the Atlantic coast line from Nantes to the mouth of the Gironde, while the Department of Deux-Sèvres lies east of La Vendée. Similarly, the Department of the Charente (also containing numerous dairy farms), which includes the upper part of the Charente valley, lies east of the Charente Inférieure. This group of Departments is well served with main railway lines. Thus the main line of the original État railway from Paris to Bordeaux runs through Deux-Sèvres and Charente Inférieure; the main Paris-Orleans line to Bordeaux runs through the Charente, Angoulême, the "chef-lieu" of the Department, being the most important town on the line between Poitiers and Bordeaux. Further the coast line from Nantes to Bordeaux, *via* La Rochelle, goes through La Vendée and Charente Inférieure.

The greatest area within which the co-operative dairying associations "fraction" may be said to be bounded by a curve drawn from Nantes to Bordeaux and passing through Tours and Limoges.

The first of these societies was formed at Chaille (Charente Inférieure) in 1887. Up to 1918, the number was a little less than 130, and their annual production of butter was thirteen millions of kilogrammes—this represented a little falling off of the rate of production in 1913, doubtless due to the War, which has caused a notable diminution in the live stock of France.

The yield of butter was apparently about 1 lb. for every 2½ gallons of milk—for in 1911, 300,535,000 litres of milk gave 13,858,000 kilos of butter.

In 1896, the French Government appointed M. Charles Martin of Besançon, one of the foremost authorities on dairying in France, to enquire into the best methods of improving the industry, and since then, the societies have made great progress under the guidance of M. Dornie, Director of the Dairy School and Station of Surgères, between Niort and La Rochelle.

M. Martin, in his book on "Laiterie" says, "L'emploi des appareils de contrôle, des machines frigorifiques, l'utilisation industrielle du lait écrémé pour la fabrication de la caseine se sont répandus."

Since 1899, the Association of Co-operative Dairies have organised a special transport of butter to Paris by cold storage wagons, of which the Association had eighteen in 1912. In 1912, the federated Societies had a membership of 77,265, the total number of cows belonging to these members being 205,557. As this works out at rather less than three cows for each member, it would appear that the average holding on which the cows are kept is no larger than many a west coast croft. About 1912, the butter brought in an annual income of 45½ million francs, and the skim milk 10.4 million francs. At that time, the occupiers of the larger dairy farms having holdings over 25 acres, to the number of 10,000, had joined the Mutual

Accident Insurance Societies to protect their stock. The Department for the manufacture of casein enables the creameries to carry their manufacturing process into the second stage of producing casein as a bye-product.

This illustrates a characteristic of the French agricultural industry, with which the student of it begins to become familiar—the first stage being that of production on a very great number of small holdings; and the last embodying the highest refinements of scientific manufacture secured through association on a scale large enough to command the direction of some of the picked brains of the country.

The dairy school at Surgères appears to be managed on the same plan as is followed at Mamirolles in the Jura, which we visited. The school seems to be treated largely as a commercial concern, and the number of pupils appears to be determined by considering how many are actually wanted for carrying on the volume of production of which the establishment is capable. In the summer, sixteen to eighteen thousand litres of milk are treated—and the pupils number from twenty to thirty, which is but little more than those at Mamirolles. It is stated that the pupils “remain one year in the school, but their theoretical study is completed during the first six months, after which they go out and serve an apprenticeship among the 129 syndicated dairies, where their service is valuable for they fill vacancies temporarily caused by the sickness of regular employees and those who are away on vacations. In this way, a close relationship is created between the dairies and the scientific central dairy department, ensuring a general diffusion of progressive methods. Further, the personnel, notably the head of the laboratory department, give such advice and information to the creameries as they may be in need of in order to improve their manufacturing methods. Besides the general inspector of creameries, there is a master mechanic, a specialist in creamery equipment such as centrifugal cream separators and refrigerating machinery.” (Taken from Report of American Commission.)

This interesting industry is the growth of the last generation. Formerly the region was largely given over to the growth of the vine, but in 1881-82 the phylloxera did untold mischief, and numbers of peasants gave up the land. Those who remained, being faced in this region with natural difficulties in the restoration of their vine-yards, cast about for a new type of culture and fastened upon dairying. The conditions under which the industry arose probably account for the systematic way in which it has been developed. There was not even one obvious breed of dairy cattle to adopt—and as a matter of fact over the whole region several breeds are used.

East of this area, lies the cattle-raising district of the Limousin—western slope of the central plateau, but the Limousin cow is not a good milker. To the north again are Brittany and Normandy, both pastoral districts. In Deux-Sèvres, the dairy farmers have in fact agreed to rely largely on their local Parthenais breed, and in La Vendée, a variety thereof called Vendéenne. In the Charente Inférieure, various breeds are used, the Norman and Durham, *i.e.*, Shorthorn, predominating. The Parthenais breed gives less milk than the Norman, but her milk yields more butter. Thus from Parthenais cows of better quality, 18.85 litres of milk will yield a kilo of butter, whereas it takes 23 litres of the milk of the cows used at Surgères to yield a kilo—but the cows of the latter will give 2346 litres per annum as against 1566 litres from the Parthenais cow. Hence, those who prefer quantity of milk will urge another breed of cow, but those who seek quality will adhere to the Parthenais. A general adoption of a rule fixing the price of milk according to its richness in fat would favour the Parthenais breed.

Discussing this industry with M. Ricard, the President of the Central Union of French Syndicates, we were more than ready to admit his claim that this was a veritable manifestation of the French genius for improvisation. All the world is familiar with its achievements in the War, but its works in peaceful fields are less widely known.

De Lavergne, writing many years ago of the dissidence of Aquitaine from the rest of France, says that in the long run the patient and positive genius of the French overcame the “*brillant et léger*” spirit of Aquitania, thinking perhaps of the final crushing of the Girondin plea for autonomy at the time of the Revolution. Here in the valley of the Charente is a borderland between the two realms. May we not see something of a fusion of the two types of mentality?

SAVOY AND JURA DISTRICTS.

The use of mountain pastures in the regions of the French Jura and Alps for dairying, mainly in the form of cheese making, is very old in the Jura, and in Savoy has been traditional for generations in a primitive form, and recently brought to a higher level. It may be said of the south-eastern frontiers of France that, partly by natural conditions and partly by social relations, the Jura and Savoy districts have a rural economy more approximating to Western Switzerland, while the Southern part of Dauphiné and the Basses Alpes and Alpes Maritimes approach nearer to the more primitive conditions of the upper Piedmont valleys. The Northern part of Dauphiné contains the rich and beautiful section of the valley of the Isère called the Grésivaudan. The concentration on modern dairying, which has been observable in la Haute Savoie in the past generation, is but one case of the specialisation of agriculture which we have noted elsewhere. More or less isolated communities have to do nearly everything for themselves, but as communications improve, the "territorial division of labour" begins to show itself. Hence, in a large and varied country like France, this process began to produce its inevitable results in the second half of the nineteenth century. The people in the Alpine valleys, as it became easier to import flour, grew less and less of their own cereals, of which rye was the most common (the climate only allowing a limited amount of wheat), and as their standard of living arose, they began to prefer wheaten to rye bread. Instead of cereal crops, they began to grow forage crops for their cattle, and in fact to exchange imports and exports. With this went a tendency to migrate, which is inevitable as soon as it is possible to hive off from isolated mountain valleys; for certain spirits will then try their fortunes in a greater world, and indeed some must do so, because the newer way of life requires less labour than the older.

Speaking of the changes which have come about in the Savoy Alps, M. F. Briot, Conservateur des Eaux et Forêts, a well-known authority on Economic Alpestre, says in his later series of studies on this subject, published in 1907, "The bullocks have disappeared from the high valleys. Mules have replaced them for work, and otherwise they have given way to cows and heifers of the breed of Abondance and the Tarentais breed. Breeding stocks of sheep have diminished by one half; such as remain are kept for the sake of their wool, converted into cloth in local factories owing to a belief that no other fabric is so good for the climate. The communes on the frontiers send their milking ewes to winter in Italy, or take in flying stocks during the summer."

"L'implantation des fruitières, la transformation des bois communaux ou pâturages de printemps, le perfectionnement des cultures alpestres sont les plus importants progrès ruraux accomplis dans la seconde moitié du dernier siècle."

"To-day (1907), there are 500 winter "fruitières" (co-operative cheese-making associations). At that time, according to M. Briot, they were mostly run on the method of "partage à tour," by which each member in turn made the cheese from the milk furnished to him for the day by all the members of the society. Each member in turn thus sold the cheese made by him to a local retailer. This system is giving place to the more ordinary one of having the cheese made by a skilled cheese-maker. The ordinary cheeses ("maigres") are made in the fruitières, the cream cheeses being made during the summer when the cows are at the high pastures. In the spring, however, when milk is most abundant, "on fabrique chaque après-midi deux gruyères, l'un demi-gras, l'autre maigre, le premier avec la traite du matin, le second avec celle de la veille au soir."

"Huit, fruitières-écoles, subventionnées par l'Etat et les deux départements, fournissent chacune, depuis 1890, trois ou quatre bons élèves par an, et offrent des exemples d'installation convenable." In the villages without "fruitières," the initial stage of the cheese-making is left more to go on by natural process, the cheese as it forms being salted daily and taken to the cellar at the end of a week. The reclamation of most of what are now the grass parks began about fifty years ago (from 1907). Formerly they were grazed in their natural state by sheep (each family having five or six) and goats. Then the communes took to letting them

out in small lots—they were ploughed and sowed every other year. The term of the let extended to eighteen and twenty-nine years, and as the stones were removed and the land broken up, potatoes were sown, followed by sainfoin, grasses and white clover, by which time they had become good permanent grass. They were manured every two years. Naturally the change was opposed at first by those who wanted to keep to the old natural grazing. The process is not without its "moral" for some of our crofter townships. Trees have grown or been planted along the dyke-like masses, into which the stones were piled—this makes the appearance of such land rather different from that of the north of England or Scottish hill valleys.

Speaking of the improvement of the condition of the people, M. Briot says—
 "L'aisance a augmenté considérablement depuis 1860. Les bonnes vaches se vendent 500 fr. au lieu de 200. La fortune agricole du petit propriétaire s'est élevée d'un tiers. On se contentait de pain de seigle et d'avoine, d'un peu de vin et de polenta du Piémont. On vendait le beurre 90 cent le kilogramme, les œufs 4 sous la douzaine, un veau de 60 kilogrammes, 7 francs. On économisait avec peine le nécessaire au paiement de la chaussure, du vêtement et des tailles. Maintenant l'alimentation ne laisse rien à désirer. Café, œufs, beurre, pâtes, légumes de toutes sortes, fromages, séret, porc salé, pain blanc, vin, rien n'y manque. On importe 200,000 quintaux métriques de farines, de froment ou de maïs, de vin et de pâtes."

The cows are kept in the villages from autumn to spring time. In summer each household only keeps one. The others are let out at rates varying from 20 to 40 francs a head for the season on the "alps" or high pastures to "montagnards," as they are called, who have possession of these pastures. The winter keep is a mixed ration of hay and straw with a few potatoes.

Between 1850 and 1900 the population of Savoy decreased by 17 per cent. M. Briot observes calmly: "Le progrès agricole n'est pas étranger à cette diminution, puisqu'il se distingue par la propagation de cultures réclamant moins de bras."

The old region of Savoy, surrendered by Victor Emmanuel to Napoleon III in 1860 as the price of his co-operation in the work of turning the Austrians out of Lombardy and North Italy, was divided by the French, in their standardising fashion inherited from the first Revolution, into two Departments, Savoie and Haute Savoie. Savoie is the more southern of the two and contains the upper valley of the Isère, called la Tarentaise, and the valley of the Arc or the district called La Maurienne. It is through the latter that the main line to Italy *via* the Mont Cenis runs, while by the former, one approaches the Little St. Bernard Pass. The "chef-lieu" is Chambéry, situated in the western or more lowland part, which includes Aix les Bains and the lake Bourget.

La Haute Savoie is less definitely featured. It lies between Savoie and the Lac Léman and the Swiss canton of Geneva, with the Mont Blanc massif and the mountains overlooking the Rhône valley between Martigny and the lake on its east. On its western side, it passes from an Alpine into a Jura territory—otherwise it is a mass of mountain and valley, including the Chamonix valley. Its chief town is Annecy on the Alpine lake of that name. In both Departments the more Alpine valleys are in their eastern halves. Where the valleys are on a lower level, they show a good deal of vineyard and cereal cultivation. A curious political arrangement complicates trade in La Haute Savoie. In accordance with an arrangement favoured by Napoleon III. at the time of the transfer, the northern part of the Department lying down to the south shore of Lac Léman, is, for customs purposes, a "zone franche" having free trade with Switzerland, the French customs frontier being drawn near Annecy.

The "inalpage," or summering on the high pastures, is now confined to cattle stock. In the two chief valleys of Savoie the cattle are sent there to put on flesh. In Haute Savoie, however, the cows are sent for cheese-making, as to the Highland shielings of past days. Naturally the milk yielded by them in the high pastures cannot be brought down to the "fruitières" and has to be treated on the spot. The practice should interest us, as it contrasts with the changed economy of our own Highlands, where sheep runs have superseded the summer trek to the shielings.

We are the better able to give some account of this practice, as there exists

fortunately a study of "L'industrie laitière en Haute Savoie" by M. Jacques Fournier, published together with an account of the local breed "d'Abondance" as a thesis submitted to the delegates of the Société des Agriculteurs de France in 1911. This work with M. Briot's writings are our authorities. The growing use of mountain pastures for cattle (and among cattle for dairy cows) to the exclusion of other stock is a sign of regional specialisation in agriculture, which again is connected with the development of agriculture for distant markets. M. Briot notes the dispossession of sheep by cattle on the mountain pastures of Dauphiné, where also, by the way, progressive "reboisement" has been carried on at the expense of sheep runs. M. Briot sets down the growth of dairying in Dauphiné also to the institution of "fruitières," which have come into being rather later in Dauphiné than in the Jura or Savoy. He mentions with approbation the Laiterie Briançonnaise at Briançon in the south of Dauphiné, "chef-lieu" of the Department of les Hautes Alpes, terminus of the railway and one of the frontier fortresses of France, being on the road which leads by the low pass of the Mont Genève to Piedmont, striking the railway from Modane to Turin at Susa. Primitive dairying was no particular rival to sheep breeding, especially before the price of wool went down. "Des 1100 litres que fournit la vache moyenne on tire, où n'existent pas de fruitières, 36 kilog de beurre, et l'on boit en famille le lait écrémé, ou bien, on le transforme en fromages de ménage. En beaucoup de vallées, la soupe au lait se prend trois fois par jour. L'organisation de fruitières est empêchée, souvent par l'influence des femmes, auxquelles l'usage confère la libre disposition de l'argent des produits de laiterie de leur fabrication propre, aussi bien que par la faiblesse du rendement des vaches. Mais si l'industrie laitière reste rudimentaire dans les deux tiers des localités, elle s'est, depuis vingt cinq ans, considérablement perfectionnée de petit à petit dans l'autre tiers."

The Laiterie at Briançon exports its products to the basin of the Rhône, Algiers, Tunis and the Levant—the natural outlet for the produce of mountain pastures so relatively near as are those of Dauphiné to the unpastured zone of the Mediterranean.

We heard something in Dauphiné of a curious practice—now apparently gradually diminishing—of sending sheep from Provence to the Dauphiné mountain pastures for summer grazing. The mountain area thus used includes also part of Savoie—Albertville and Mont Cenis, as well as near Grenoble in the Isère, Gap in the Hautes Alpes, and Digne and Sisteron in the Basses Alpes. These sheep come from the district called the Camargue between Arles and the mouth of the Rhône, where two-thirds of the land are more or less unreclaimed owing to failure to irrigate them. Even short of irrigation, the "farmers" are nowadays less willing than they might have been formerly to clear the stones off and turn the land into grass parks by manuring, as instead of long leases, they have been driven to take short lets owing to the growing difficulty of getting summering in the mountains. It is recognised as impossible to summer them in the Camargue, "à cause du manque d'herbe, d'une chaleur torride, et des myriades d'insectes qui voltigent partout et énervent tous les animaux." Nor could feeding stuffs be bought in for them—it would be too costly.

M. Briot, arguing in favour of reserving a certain amount of mountain grazing for these sheep, whose owners have been freely criticised, it appears, for impoverishing the pasture on the mountains, suggests that now there is less fear of that happening than formerly when the sheep were kept for their wool instead of, as at present, for their mutton. As at that time they were kept until they were three or four years old and then sold off for fattening, apparently their owners were inclined to overstock. Now, however, since wool has fallen in price, the main object is to rear good lambs, which are sold in their first spring or as hogg on their return from the Alps. Apart from the bad name which the Provençal flockmasters seem to have got, the inhabitants of the mountain valleys feel that they have less grazing to spare, since the general improvement of pastures has enabled them to keep more cattle through the winter. It is curious that, in the east of Switzerland, far fewer sheep come up from Bergamo in North Italy to the Alps of the Guisones to summer than formerly; the Swiss think that they take it out of the pastures too much.

On the other hand, M. Fournier, dealing with "inalpage" in his study of the

dairying industry in Haute Savoie, congratulates the "montagnards," i.e., those who have the use as owners or occupiers of the mountain grazings, on clearing sheep off their hill sides. Writing in 1911, he mentions that on the Grand Bornand, a mountain near Thônes, about 20 miles from Annecy, the sheep had been reduced to 500 or 600 from 2000 thirty years before.

"Le bétail bovin seul est admis en règle générale, les chèvres sont tolérées, mais en petit nombre. Grace à ce soin, nos montagnes malgré leur manque d'entretien ont conservé leur aspect verdoyant et leurs fourrages embaumés. Dans nos diverses ascensions, nous avons recueilli cette impression, que partout où le mouton a remplacé le bovidé sur les pâturages, la montagne a vu son gazon détruit, sa couche végétale entraînée en partie par les eaux pluviales. Nos éleveurs s'en sont aperçus assez tôt pour conjurer cette ruine du sol et du pays, et pour sauver les herbages savoyards, qui semblaient appelés à disparaître comme ceux qui autrefois faisaient la gloire et la richesse des Hautes-Alpes."

Alpine pastures belong either to private individuals or to the "communes." For the summer grazings, it is not unusual to let them to "montagnards," who get leases of nine to ten years certainly from private owners. Apparently it is more usual for members of the "commune" having rights of grazing on the communal land to let their "estivage" in Haute Savoie than in the mountain valleys of Savoie, where on the whole the peasants are poorer. The "montagnards" themselves usually have a little arable land in the valleys, but their homes seem to be on the higher slopes.

In connection with the use of the summer grazings on the communal lands, it may be mentioned that certain questions as to the most equitable arrangement are raised from time to time. Apparently the general arrangement is to allocate them to the freeholders of the "commune" in proportion to the number of head of stock which they winter. Thus M. Fournier mentions that on the Grand Bornand the rates fixed by the local council are:—

- 5 francs for every head of stock wintered in the district.
- 20 francs for every head of stock not belonging to the district.
- 10 francs for those bought in at spring.
- 1 franc for every sheep.
- 8 francs for a mare,

while special arrangements are made for the poorer inhabitants of the commune.

The first rate is obviously based on the principle indicated. M. Fournier hints that the local council "passes in silence" the rule fixing the number of heads of stock per hectare—as if there were a tacit agreement to break it.

A rather different system of differentiated rates is recommended by M. Briot as tending to check an alleged abuse in the normal practice, which is said to lend itself to the monopolisation of the pastures by a few inhabitants of the "commune," who have numerous flocks and herds. They are alleged to hurt the pasture by overstocking, while the majority, having little stock, are not alive to the importance of checking this process. The controversy is a little like that concerning the "stinting" of common pastures in Cumberland, and the critics of the alleged abuse favour the "stinting" of the pastures, each inhabitant having a share just as he has in the communal woods for fuel. The members of the "commune" having little stocks would let some of theirs to the wealthier peasants, and as the value of their shares would remain high or go down as the grazings were well used or over-eaten, they would have good reason to intervene. Some such reform was tried in 1850 by the prefect of the Department of the High Alps, but it did not give satisfaction. The analogy between the right of taking fuel and the right of pasturage is not perfect, as the "hearth" is not the unit for one purpose as it is for the other. Equality does not mean justice here, says M. Briot, and he asserts that in no European country have common pastures ever been equally divided on the authority of Roscher, the Leipsic Professor, whose writings on "rural economy" Lord Acton was anxious that Mr. Gladstone should study before drafting the Irish Land Act, 1881.

M. Briot regards as the best solution, an arrangement by which a maximum rate is charged for beasts that represent an average winter stock—above that number,

the rate should be graduated so that the poorer inhabitants should gain, as members of the "commune" entitled to share in its revenues, what they lose through having but little stock. It is clear, however, that most "communes" do have to take measures to reserve certain parts of the common grazings for the poorer members of the "commune" at low rates.

The "montagnard" who is seeking to rent portions of the "alp" for summering cows has a fairly simple task, if he merely gets a lease from the individual owner of such pasture, but it is more complicated if he is seeking to bargain for their interest in the common grazings with individual members of the "commune,"—he is rather like a Cumbrian flockmaster collecting "stints" from owners or occupiers of them on the common fells. The "montagnard," however, has a further bargain to make—for, since as a rule he has not enough stock of his own to make a profitable thing out of a "summering"—he hires cows from the inhabitants of the "commune."

Thus a "montagnard" mentioned by M. Fournier in his study of "inalpage" on the Grand Bornand paid 1500 francs as rent for the pasture for three months, 1200 francs for the hire of 30 cows for the same time, and 540 francs in wages to assistants and a herd—and this was besides the keep of the staff and the purchase of 10 young feeding pigs. His expenses were 4260 francs and his receipts just under 7000 francs, 5400 of which came from the sale of the cheese made, the rest mainly from the sale of the pigs, young boars, 3 calves and a mule. As already indicated during the "inalpage" the "montagnard" makes a kind of small cream cheese, called in Savoy a "riblochon," which is sold to merchants in Annecy, who in turn despatch them to the towns in Savoy and the big markets of Lyons, Geneva, Marseilles and Paris. The manufacture of Gruyère is rarely done at the "shellings" as the plant is too costly, but in the "fruitières" in the valleys. The rules of the use of the summer grazings strictly forbid the "montagnard" to cut any hay thereon until the 15th September.

The "fruitières" or co-operative cheese-making societies came into Haute Savoie apparently about 1840, through some Swiss societies being formed on the Savoy shore of Lac Léman. In 1911, 450 such societies were in existence in the Department, fewer of them being found in the more mountainous cantons. The total number of members at that time was 20,000 possessing 53,000 cows—so that the number of cows owned by each member is about the same as those by the average member of the "laiteries co-opératives" in the Charentes.

The old-fashioned method of carrying on operations called the "tour" already referred to is passing away. Another way is for the society to let the plant and buildings to a professional cheesemaker, and sell him the milk by separate bargain with each "sociétaire" for a whole year. He, of course, makes such profit as he can on the sale of the cheese—and perhaps the keeping of pigs. This method is frequently resorted to in Haute Savoie. The better way, of course, is for the society to carry on the undertaking through a committee, each member receiving a share of profits in proportion to the milk supplied by him. Not too many of the "fruitières," however, appear to have enough business men among their members to carry on the several transactions implied by this arrangement. M. Martin thinks that there is something to be said for leaving the undertaking to a cheesemaker. He does not see how otherwise the making of Emmenthal cheese will be introduced into France.

It is commonly agreed that the least number of cows justifying the creation of a "fruitière" is 100 to 120, yielding an average daily supply of 450 to 500 litres of milk. It would indeed pay some of the smaller "fruitières" to amalgamate in order to secure economies in the use of buildings and plant. Gruyère being a somewhat difficult cheese to make, the Conseil Générale de la Haute Savoie has founded four dairy schools in the Department, at which have been trained a considerable number of efficient cheesemakers, who have replaced the Swiss "fromagers," who formerly came into Savoy because they were failures in their own country. Apparently the establishment of "fruitières" tends to raise the level of the dairying industry. M. Fournier quotes an extract from a Jura newspaper many years ago, to the effect—

" Dès qu'une fruitière s'installe, l'hygiène du bétail, la propreté des étables et par suite celle du ménage entier changent à vue d'œil. Le bétail

augmentant et s'améliorant, la viande des vaches vient suppléer au déficit des animaux de boucherie. Un bon assolement s'établit de lui-même. La nécessité de semer beaucoup d'herbes artificielles et de racines fourragères abolit les jachères, permet par un engrais plus abondant de produire sur une moindre surface plus de céréales et amène insensiblement à la suppression de la vaine pâture."

Apparently a greater field is open to the French Alpine dairymen for making cheese since the Swiss have turned rather to condensed milk and milk chocolate. The Boer War is said to have given a great impetus to the former industry, large supplies apparently having been ordered for the British Army.

The law of 1906 on Agricultural Credit seems to have led to the establishment of more new "fruitières" through its financial provisions in Haute Savoie than in any other Department. M. Fournier remarks that the growing costs of the buildings and equipment of a modern cheese-making factory, which (1911) may cost from £1000 to £2000, makes the provision of cheap loan capital from public funds more important than heretofore.

Like most unofficial writers on the subject, M. Fournier notes certain drawbacks in the system of State advances, among others the somewhat elaborate formalities to be complied with.

State intervention led to the establishment of more, but these replaced the previous out-of-date "fruitières." Thus it is quite probable the total number of "fruitières" was *diminished*, but the efficiency both in quantity of milk treated and quality of treatment was increased. F. Rouault (in "Geographie Agricole de l'Isère," published at Grenoble about 1906) gives interesting particulars of the number and type of "laiteries" in that region in 1905 :—

26 laiteries particulières,
62 beurreries, fromageries, ou fruitières particulières,
11 beurreries, fromageries, ou fruitières co-opératives.

These 99 establishments treated or sold the milk of 10,960 cows and 250 goats. The average milk for each cow was 1500 litres and for each goat 500 litres. That average was divided into various groups—cows of the mountain zone 1200 to 1600 litres, those of the Subalpine zone and of the valleys 1800 litres, those of milking breeds (such as the breeds of Montbéliard and Abondance) up to 2200. Rouault notes that most of the "fruitières" use their waste materials for the rearing of calves and pigs.

We have given the foregoing account of the "fruitières" in connection with a general description of the dairying industry in the mountain valleys of Haute Savoie, because for our special purpose we were concerned to call attention to the recent development of dairying in an Alpine district. Perhaps, however, it is only fair that we should recall that it was in Franche-Comté, the border province on the French side of the Jura (to-day divided into the two Departments of the Doubs and the Jura) that the "fruitières" took their rise. It is debated whether they came from the Swiss side of the Jura to the French, or from the French to the Swiss. M. Martin, reviewing the discussions on this subject, feels justified in claiming the credit of their origin for his own country. It may be that there has been a tendency to assume that they arose in Switzerland, because, on the whole, over a long period there has been more progress and prosperity on the Swiss than on the French side of the Jura, due largely to the autonomy which the Swiss cantons and cities achieved at an early date.

There is no doubt, apparently, that watch and clock making (the other local industry common to both countries) was brought from Switzerland to France. In any case the "fruitières" have been an institution well rooted on both sides of the border for centuries. The physical conditions of the Jura districts are different from those met with in Haute Savoie. The grazings to which the cows are sent in summer are nearer the villages, and not on the steep mountain slopes of the Savoy Alps. Hence there is no isolated manufacture of small cream cheeses in mountain chalets. The main work of the traditional "fruitière" is done while the cows are in the summer pasture in the Jura. As is well known, the Jura, which are a much older mountain system than the Alps, while containing some steep narrow valleys, more generally consist of a succession of slopes, in which a broad

flat valley rises gradually to a ridge. The pasture is naturally rich, as it grows on the Jurassic limestone. The cattle are large, particularly the Montbéliard breed. Plantations of wood are everywhere interspersed among the meadows. They give shelter on this high plateau which is much swept by winds in winter, and they are used by the inhabitants as sources of fuel. The winters are severe. Besançon lies at 1000 feet above sea level, while Pontarlier and Chaux-de-Fonds, which are at different points on the boundary ridge, are about 3000 feet up.

We visited the dairy school of Mamirolle, a few miles out of Besançon, and were shown over by the manager. Our visit was not so timed as to see the school at its best, as its buildings had not long been vacated by American soldiers, who had left them in the condition in which buildings are apt to be left after military occupation. We could see, however, that cheese making was carried on there in a highly efficient manner. We could not help feeling, however, that other things seemed rather subordinated to carrying it on as a successful commercial undertaking. Thus the number of the students was apparently determined by this consideration. Such an arrangement seems destined to restrict the utility of the "school" as such. The manager frankly told us that hitherto the profits of the undertaking had gone to him, but that this arrangement was coming to an end at the end of the year. If State institutions for agricultural education are usually managed on such lines, it must endear them to the heart of the French Treasury.

We have dwelt at some length on the development of co-operative dairying among small holders in two very different regions of France, in the hope that our account may encourage attempts to set on foot a similar movement in suitable parts of Scotland, where there is still room for progress in agriculture. In particular, we have narrated with some detail the practices of the pastoral industry of Savoy, as the natural conditions of this Alpine region have something in common with the Scottish Highlands. It is true that their more southern latitude gives the inhabitants of Alpine valleys a hotter summer—but it is a short summer like ours, and ours has longer days in it. Further, on our west coast the influence of the Atlantic tends to make the winter more open.

The main dairying district in Scotland—North Ayrshire and Lanarkshire—is almost entirely devoted to supplying the lower Clyde valley with fresh milk. There is but little butter and cheese made in Scotland. Yet the high prices of dairy produce should give a stimulus to other branches of dairying in pastoral districts, such as the French dairying districts described by us have lacked throughout. It is not unnatural to suppose that Germany will take a great deal of Danish dairy products, having seen her own dairying industry much curtailed. The rise in freights will tend to discourage sea-borne foreign trade, and contact by land will tend to stimulate commerce more between land neighbours.

CO-OPERATIVE DAIRYING IN SCOTLAND.

The present time seems favourable for an extension of dairying in the crofting counties. The pre-war arrangements under which dairy produce came from France, Denmark, Holland, and elsewhere, are not yet restored, and for the present our home market is anybody's market. The home producer has the immediate inducement of higher prices, and in the undeveloped parts of Scotland dairying could be taken up without any high cost of production. At present the chief dairying districts in Scotland are North Ayrshire and Lanarkshire, and as we noted in our earlier report, the normal dairy farm in these counties is between 50 and 100 acres. The conditions of climate which, apart from the neighbourhood of good markets, have favoured dairying in the South-West of Scotland, also prevail along the West Coast north of the Clyde. Argyllshire and the West Coast of Inverness and the Island of Skye have large tracts of land which could be used for dairying, not of course for the fresh milk trade, but for cheese and butter. At present a fair amount of cheese is made in Islay and Coll.

As so far there are no "co-operative creameries" in Scotland outside Ayrshire, a careful propaganda will have to be prepared with a view to inducing crofters and small farmers in other suitable districts to take up co-operative dairying. Hence we cannot afford to ignore any hints that may be gained from elsewhere. The

Co-operative Cheese School is a device that has been found useful in England. We are indebted to Mr. J. F. Blackshaw of the Ministry of Agriculture for information as to the working of this scheme, which has been worked through the County Education Authorities. The enlistment of the interest of these bodies in agricultural education has given England a certain advantage, which perhaps we have lost in Scotland.

At first the Ministry induced County Education Authorities to start "Travelling Cheese Schools" of comparatively small capacity. The plant was furnished by the Ministry, and the local farmers coming forward for instruction supplied the milk. One farmer might do this one day and another the next. "As the class progressed the students contributing the milk supply were, in the case of small holders, allowed to put their supplies together so as to make a bigger cheese, or what might be termed 'a co-operative cheese.' In all cases the resulting products belonged to those contributing the milk supplied. This procedure the better enabled those taking part to appreciate the actual return obtained from making cheese, and the result in many cases quickly led to the supply of milk offered being largely in excess of the capacity of the apparatus. It was for this reason that the Ministry after a short experience of the Travelling Schools decided to ask County Councils to establish Co-operative Cheese Schools."

The procedure for conducting these schools is set forth in a Memorandum which is printed as Appendix 5. Mr. Blackshaw states: "There has never been any requirement that those in whose interest the Co-operative School was held must form themselves into a Co-operative Society. Instead, we trusted the effect of the demonstration would inevitably lead them to see the wisdom of establishing their own joint dairy.

"There are now being conducted throughout England and Wales a considerable number of such schools, and I may say that, with a very few exceptions, co-operative societies have followed the working of the schools, and in some cases they have already developed into considerable undertakings."

It will be noticed that under the scheme the Ministry lend the necessary plant for the period of instruction, the County Authority provide an instructor with instructional appliances, and a local committee of the farmers interested make themselves responsible for the business side of the school, including the accommodation. It will be realised that arranging for a guaranteed supply of milk and collecting and paying for it needs thought and trouble.

It may happen that in districts where crofters and small holders who are engaged in rearing stirks might be induced to take up co-operative dairying, they will not be prepared to surrender the whole of their milk, as they must do for cheese-making. Butter-making, however, is not incompatible with retaining some of the milk to rear calves on. The cream is separated for butter, and the skim milk is taken back to the farm to feed the calves.

For this kind of farming, an arrangement which the Scottish Agricultural Organisation Society tried to introduce in Argyllshire some years back is helpful. A central butter factory is set up for a fairly wide district, and small separating plants are distributed over the whole area of supply. The milk is thus separated locally and the skim milk easily taken back to the farm, while the cream is sent to the butter factory. The Lorn district of Argyll seems suited for an experiment of this kind. A butter factory might be established at Oban, and separators set up at various points along the line between Oban and Dalmally, and again between Connel Ferry and Ballachulish. It happens that each of the districts traversed by these lines contains a considerable amount of good pasture and a fair crofter population.

It might also be arranged to have some separators provided for the district between Oban and Crinan. Arran and Islay also suggest themselves. Other parts of Argyll, such as Kilmartin and Knapdale parishes and parts of Cowal, seem to be suitable for developments of this kind. Experiments might also be tried in Western Lochaber and on the west side of Skye. There can be no question of the Ayrshire cow being quite suitable for these districts. On some of the larger holdings, cows of this breed are to be found all the way up the West Coast as far as Ross-shire. It is true that the male calves are less satisfactory than those of other breeds for rearing as stirks; but other calves might be bought in as is done

on the small holdings in Annandale at present. We recognise that in order to keep up the supply of milk during the winter—and a butter factory will not succeed unless customers can be guaranteed butter during the winter—the working of the holdings will have to be improved so as to yield more winter keep for the cattle.

We have called attention to Argyll and Western Inverness as suitable districts for a development of this kind, as they are relatively near the Glasgow market; and the purchase by the Board of Agriculture of a large estate on the west side of Skye suggests that the opportunity thus given of lifting up the whole level of crofter agriculture on the West Coast should not be missed. The taxpayers' money is not well laid out, if the great area made available in this case is simply used to form holdings of the normal type of the Skye croft, with five West Highland cattle and fifty sheep on the hill grazing. If the South Uist crofter in his distant island does as well as he does with his West Highland stirks, the Skye man with his better opportunities should rise to the occasion.

The foregoing are not necessarily the only districts in which there may be an opening for co-operative dairying. Districts in the South-West, such as some of the Annandale parishes, and again in the Stewartry and in Wigtonshire, seem to offer favourable ground for such a development. We hesitate to express an opinion on the suitability of the Northern crofting districts. There, as in the North-East, the small farmer has kept himself very much to raising stores. The Polled Angus is almost entirely a beef-yielding, not a dairy breed. There seems reason to doubt whether the Ayrshire would thrive in the districts round the Moray Firth. Further, dairying does not represent so great an economic advance for a district which is raising Polled Angus as for one which has more to do with the West Highland breed. At the same time, Easter Ross, Caithness, and Orkney are not altogether unlike Jutland, and the inhabitants of these districts seem to have something in common with the Danes. Orkney, in particular, has a great arable area, and the Orkney people have shown no little aptitude for co-operation. We recommend the Board of Agriculture to examine the possibilities of dairying in these districts.

Nobody can doubt that a permanent result of the conditions under which industry was carried on during the War has been to give the working classes a standard of living nearer to that of the middle class. From this standard they will not readily go back—and whatever the much-debated effect of the women's vote may be, it may at least be taken for granted that its weight will be felt in the efforts made to maintain the higher standard of living for the family.

SCHEME OF AGRICULTURAL CREDIT FOR SCOTLAND.

We propose to deal with the problem in Scotland:—

- (1) With relation to agricultural occupiers generally as in Section 16 of the Land Settlement (Scotland) Act.
- (2) With reference to persons entering new holdings, either under a State Scheme of Land Settlement and with reference to the provisions of Section 29 of that Act, or in ordinary course.

It is true that Section 16 empowers the Board to assist Land Banks, etc., concerned *inter alia* with helping Landholders and Statutory Small Tenants to work their holdings, but we are assuming that any scheme adopted will cover a wider sphere of operations than this, and that small farmers not falling within either of these categories will be included in such a scheme, especially as we assume that assistance from the Development Fund will be forthcoming.

It is obviously needful to get at the several purposes for which agricultural credit would be useful to the classes of farmer dealt with in this report, viz. crofters in the crofting counties, statutory small tenants in the North-East of Scotland, and pair horse farms and small dairy farms over the statutory small tenants' limit mainly in the North-East and South-West of Scotland.

These purposes tend to be identical up to a point with the purposes for which at present resort is had to trading and other co-operative societies, and indeed it is impossible to deal with agricultural credit and ignore its implications with co-

operation. The Scottish Agricultural Organisation Society distinguishes the main business of the Co-operative Societies as :—

- (1) Sale of Eggs and Poultry.
- (2) Co-operative Dairying.
- (3) (Purchase of) agricultural requisites, *i.e.* seeds, feeding stuffs, and fertilisers.

So far as (1) is concerned, the societies doing this class of work are found in the Crofting Districts (including the Islands), and generally speaking they are able to make their members a payment slightly in advance, and usually this meets all reasonable expectations.

Similarly, at the present time the greater part of the members of the Societies supplying agricultural requirements do not want credit in order to pay for the goods which they get through the societies, except in the case of crofters mainly in the Islands and North-West of the Mainland who need seed oats and potatoes. It is inevitable that, after bad harvests such as occur too frequently in these districts, such difficulty should be felt. Further, the co-operative Dairying Societies, which for the moment we are only considering as trading societies, usually pay their members by the month, which seems sufficient for their purpose.

This only takes us a certain way. It may be said that though the position may be as stated, and the arrangements may be satisfactory so far as the ground is covered by co-operative trading societies, still the majority of smallholders, who stand outside these societies, may want credit for the purchase of requisites or it may not be easy for them to wait for the realisation of their profits in ordinary course.

We suggest, however, provisionally, that agricultural credit for individuals should not generally be made available so long as it is possible for the same results to be achieved by the individuals buying and selling in association. It may be, of course, that even then there is need for credit, or that in some places it is impossible to secure associated action, and certain individuals are, through no fault of their own, left in isolation.

There are still certain directions in which at least the crofters in the congested districts will require credit ; thus

- (1) It is often alleged that the crofter is handicapped by having to realise the stock at too early a date, or at least that he is too strongly disposed, through working on a narrow margin, to part with it to the first offerer, and does not hold on to superior breeding stock.
- (2) A crofter with too small a holding, who needs and gets an enlargement in order to make it more economic, requires extra capital to buy more stock for the enlarged holding.
- (3) The crofter or smallholder who might be induced to keep a higher type of stock is hindered, apart from other doubts and timidities, by lack of capital to make the change. Thus in Skye it might be possible to raise Gallo-ways, Blue Greys, and Angus as well as West Highland Cattle. Not that we suggest that the West Highland breed should be wiped out. Presumably natural selection has been at work in its survival. In the south-west it might be desirable to substitute a dual purpose animal, such as the Shorthorn for the Ayrshire, on small mixed farms in which dairying is only one element in the ménage. The so-called conservatism of the small farmer is due not so much to intellectual timidity and temperament as to sheer lack of capital. To experiment means to speculate—and only the man with a margin of capital can do that with reasonable confidence.
- (4) The capital of the crofter and smallholder generally is insufficient to enable him to buy modern implements.
- (5) The crofter or member of the crofter's family carrying on home industries is often constrained by circumstances to buy raw material (where it is not produced at home) too dear and to sell too cheap. Such person is also likely to be in difficulties about obtaining looms, dyes, etc.

We do not pretend that the foregoing list is exhaustive, but it covers most of the ground. It enables us to see that for certain purposes, such as the purchase of

stock, there is need for more capital, and that capital would be most suitably provided in the form of advances to individuals.

We feel justified in laying it down as a general principle that, where a purpose for which more capital is needed can best be served by associated action, every encouragement should be given to the formation of co-operative societies for purchase and sale in order to ensure the object being attained in an economical fashion. It may be that these societies will want short term credit for lack of capital, or that they will have to give some of their members credit. If that is so, credit should be made available for and through them, and such credit to individuals should be restricted to necessary purposes. Thus we understand that the Scottish Agricultural Organisation Society is forming societies for the purchase of machinery such as threshing machines, and, as apart from the obvious difficulty of individual small farmers buying expensive machines of this kind, it is clear that in any case the fact that they are only used for seasonal operations makes it desirable to afford facilities by which the payment for them can be spread over a short term of years, whether they are acquired by individuals alone or in association. It is probably only by such methods that relatively new implements, such as double furrow ploughs, will become generally used among small farmers.

The foregoing principle is again re-enforced by a further consideration of Scottish conditions.

We do not suggest the formation in Scotland of local co-operative credit societies on the Raiffeisen plan, which is usually taken to imply unlimited liability, and that for two sets of reasons :—

(1) The Raiffeisen Bank was originally started in Germany to do for country districts what the Schultze Delitsch Banks were doing for the towns. It was not restricted purely to agriculturists, and apart from the fact that the purpose of any advance was *ex hypothesi* productive, the bank had no further interest in the way in which the borrower laid out his money. We do not think that in agriculture co-operative credit can be kept severely apart from co-operative purchase and sale and co-operative production—and in the meantime a considerable organisation of co-operation for these purposes has sprung up over Europe.

In our view, any organisation of agricultural credit should be designed to encourage the smallholder to get all that he has to buy for the working of his farm through a co-operative society—manifestly, his capital in cash will go further in this way. Hence credit ought to be given rather to such co-operative societies, and to individuals through them, and as members of them.

We recognise, however, that there are certain purposes for which the smallholder justifiably will insist on doing his bargaining as an individual, such as the buying of stock, for here his skill as a stockbreeder comes out. Loans to individuals should be confined to cases of this kind, and preference should be given to applications for loans in cases where the applicants wish to get on to a higher level of stock raising or on to dairying.

(2) For this restricted class of business the Raiffeisen land bank is not particularly well suited to Scots temperament and tradition; the conditions which made unlimited liability inevitable in a community such as rural Germany was in 1860 do not exist in Scotland to-day. The ordinary smallholder and small farmer in Scotland is fairly familiar with the methods of the Banks, and the Banks do not fight shy of him as a class on the ground that he is an impossible client. That being so, and as we only propose individual credit for a limited set of purposes, we think that for such cases the borrower should be treated by any credit institution set up as a joint stock bank would treat a client. Further, an operation of the kind to which we propose to restrict individual credit is one which the borrower would regard as highly confidential, and which, therefore, he would be unwilling to discuss with a committee of his neighbours. All that we would require, apart from ordinary security, would be that, as the system would have to be co-operative, the borrower should be a small shareholder in the institution.

Any relatively local institution set up would deal then for the short term credit, which would cover most of its transactions, to a limited extent with individuals, but more with co-operative trading societies, and they would arrange with their own members for any credit which they might require as individuals.

These co-operative societies and any individuals who borrowed as such from the credit society would be shareholders in it—it would be a co-operative credit society, built largely on the co-operative purchase and sale societies in a district.

To this extent, but to this only, it would resemble the French "Caisse locale," which deals with its individual members and with co-operative societies for short term loans. The procedure would also follow the lines adopted in the south of Italy, by which credit is given mainly through co-operative societies for purchase, sale and production.

Otherwise, however, the kind of institution which we propose to set up in Scotland would resemble rather the "Caisse régionale" in France.

The foregoing proposals relate exclusively to short term credit (*i.e.* credit for terms varying from a few months to five years) to co-operative societies for purchase of agricultural requisites or production or sale of agricultural commodities, and to individuals, as in France and in Italy, but with a preference for giving it to and through co-operative trading societies than to individuals, which in this respect would bring the system more into line with that followed in the south of Italy than with the French system.

The shortest term would be for the purchase of seeds and feeding stuffs, for which a year should be the outside limit. For fertilisers the period might be two years, in respect that the return from their use is not so quick as in the case of sown seeds or consumed feeding stuffs. The longer period, *i.e.* about five years, would be required for repayment in the case of loans for stock and for the purchase of such machinery as threshing mills.

In proposing to base the mechanism of agricultural credit in Scotland mainly upon existing co-operative societies of various kinds, we do not wish to get such societies into a habit of using advances from public funds in order to ask for or give credit where heretofore they have paid or been paid in cash. Credit should be used purely for the purpose of stimulating further production and bringing crofters and smallholders up to a higher level of agriculture. It would be a pity if any result happened such as was experienced in Germany with the herring fishing companies that came into existence under the stimulus of the bounty. Persons came into the venture rather for the sake of the bounty than because they were competent to take part in the industry. But the latter proved to be the more important factor, and most of the companies got into financial difficulties sooner or later.

In connection with loans for stock, we think that it may be useful to refer at this stage (though for some reasons it is more relevant to a discussion of measures to assist the stocking of new holdings) to a scheme which has worked well in Manitoba. The scheme is embodied in The Settlers' Animal Purchase Act, 1916, which was passed to stimulate the raising of stock in a part of Manitoba where there were difficulties in clearing the land for grain crops. The facilities afforded by the Act are only available to settlers who form themselves into little groups of ten. The cows are bought by the Department of Agriculture or by the approved applicant, subject to approval and inspection by the Department's Agent (in which case the Department actually pays for the beasts in the first place), and shipped to the nearest railway station. Cows are delivered on credit covering a period of five years. Five annual payments are made, and interest is charged at 7 per cent. In addition to signing the necessary agreement, each member of the group gives a bond for one-tenth of his purchase price. In the event of any member of the group not being able to meet his obligation, if it is found necessary, each member can be called upon to aid in meeting the deficit to the extent of the bond given.

The title of ownership remains in the name of the Manitoba Government until the cows are finally paid for, and if it is found that the animals are not being properly cared for, the Department may take repossession of the animals at any time, and redistribute them among the other members of the group, or otherwise dispose of them.

Section 11 of the Act provides that each purchaser under this Act must agree that until his indebtedness for animals delivered to him is fully satisfied, he will send such proportion of the milk and cream from all of his cows as he does not require for use in his family, to any co-operative creamery or cheese factory which the Government of Manitoba may establish in a locality convenient to the farm of the

purchaser. The Minister may deduct monthly a certain proportion of the moneys payable for milk and cream to any purchaser in any such creamery or cheese factory, and apply the same to the indebtedness of the purchaser to the Government for animals purchased under the Act.

No more than five animals may be delivered to any one settler at any one time. Until the purchase price (and interest) of animals delivered to a settler under this Act is paid in full, the said animals must not be killed, slaughtered, sold, lent, hypothecated, or otherwise disposed of by the settler in any way unless by the consent of the Minister.

The scheme appears to have been a great success. It is noteworthy that the Act was partly designed to set up in homesteads without delay settlers who were being forced to work out for wages to support their families when they should have been steadily engaged in clearing their holdings and getting them into condition for profitable crops. It was felt that the cattle supplied would provide cash returns for the product of the cattle that would keep the family going in ordinary supplies, thus enabling the man to stay on his farm and make it productive. The foregoing account is taken from the text of the Act, and from a report by Mr. Sims, the purchasing Agent under the Act, published in the Annual Report of the Department of Agriculture and Immigration of the Province of Manitoba for 1917.

The foregoing scheme might be possible of application in districts where the crofter township still survives, *i.e.* Shetland and the Hebrides, and more probably for new settlements in such districts. It is based on co-operative credit, but of an *ad hoc* character, and the liability of each member of the little group is limited.

For occupiers of larger holdings, however, and generally for crofters and statutory small tenants in the districts on both sides of the Moray Firth and in the north-east of Scotland, we are satisfied that it is necessary to treat each applicant as an individual, and take his own personal security, as an ordinary bank would do. It is obvious that any applicant should be required to take a share for a small amount, *e.g.* £1, in any credit society to which he applied for an advance.

Further, without requiring in every case that an applicant should be a member of a co-operative trading society, we think that preference should be given to members of such societies wherever there is any such society in their neighbourhood, as such membership would show that the applicant was carrying on his own business as a farmer in an economical way, and was supporting the solidarity of his class.

So far we have dealt with "short-term credit," designed to add to the amount of working capital at the disposal of small farmers and crofters.

LONG-TERM CREDIT FOR CO-OPERATIVE PRODUCTIVE SOCIETIES.

We have, however, in dealing with the history of agricultural credit in France, seen that it is regarded as a valuable feature of the French system that credit facilities are also made available for the establishment of co-operative productive societies, the most common kind of which are co-operative dairies. The reasonableness of the extension is quite obvious. As butter- and cheese-making come to be more detached from the individual and carried on at central creameries, the fixed capital required in these creameries may be regarded as the aggregate of the various capitals previously sunk in separate plant on each dairy farm. Hence, unless the central creamery is to get into the hands of non-agricultural undertakers, the associated dairy farmers must find the capital for the creameries. At present there are seven such institutions on a co-operative basis in Scotland, all in the dairying district of North Ayrshire. The latest report of the Scottish Agricultural Organisation Society indicates that several others may be set up shortly in Ayrshire, and one at East Kilbride and one at Rothesay. Most of the existing and projected creameries are in an area not far from the great Glasgow market. If, however, there is to be an extension of dairying in other parts of Scotland a little more remote from such a market—and dairying is a form of agriculture for which small farms are suited—the milk will have to be made into butter and cheese. The provision

of co-operative creameries is therefore an essential part in any scheme for creating dairy small holdings in any number. At the present time when the dairy industry has an obvious monopoly, it is actually in the interest of the consuming public to extend dairy farming. We gather from the reports of the S.A.O.S. that the actual buildings of the co-operative creameries which have already been set up have cost about £800, the equipment requiring another £1000. Small creameries for handling smaller quantities of milk can be put up at relatively less cost. We do not see why the Board, in view of their direct intervention in building operations as part of land settlement, should not try to cheapen the cost of erecting creamery buildings.

Generally speaking, we do not think that loans to co-operative dairying societies to enable them to put up buildings and instal suitable equipment should exceed half the cost.

The loans should be repayable in a maximum period of twenty years, and should bear interest at the market rate plus an addition of $\frac{1}{2}$ per cent. for management. They will be secured by a bond on the buildings and plant.

We have not referred to co-operative bacon-curing factories, because these institutions are more difficult to work co-operatively. We have seen that in France (and indeed in Ireland) co-operative dairy societies are sometimes driven to lease their undertaking to a professional cheese-maker for lack of a good manager or good committee. The management of the sales is more complicated in the case of bacon than of dairy produce, and as business capacity is not too easily commanded by societies of agricultural producers, we are not sanguine about the success of co-operative bacon-curing factories. Further, the cost of installation is several times greater than that of a cheese- or butter-making factory. Still, in the more advanced districts of the country, we do not see why loans should not be made to well-considered undertakings of this kind.

LOANS TO FARM WORKERS AND OTHERS DESIROUS OF ACCUMULATING WORKING CAPITAL TO ENABLE THEM TO ENTER HOLDINGS.

For the moment we propose to defer the consideration of the special problems relating to the immediate settlement of ex-service men on holdings formed by the action of the Board of Agriculture.

We do not see why farm workers, especially shepherds, should not be able to make use of agricultural credit institutions to help them to acquire sufficient capital to stock a small farm on lines similar to those adopted by building societies. The farm worker of to-day gets higher wages than previously, and if he is unmarried should be in a position to save some of his earnings. In this case the farm worker would be expected to begin to deposit sums from time to time with the credit institution for a term of years before he actually took steps to rent a holding. The sum finally advanced to him by the institution would bear a definite relation to the aggregate amount deposited by him. His position would be analogous to that of a member (individual or society) of a co-operative credit society who had taken shares in the society as a condition precedent to having the facilities afforded by the society made available to him.

STOCK INSURANCE SOCIETIES.

The small farmer would benefit greatly from an insurance of his stock. At present, where he has a share in a Club sheep stock, there is a species of insurance in so far as the losses through death or accident are distributed over the whole stock. Apart from Club stocks, it does not appear that at present the insurance of small sheep stocks is possible—the losses are too uncertain. But in the case of cattle stocks and horses, insurance is desirable, and it has been managed successfully on a co-operative basis in France. It is important in mitigating the burden of exceptional mortality in the stock of a given small farmer, and this assistance to him becomes the more advantageous as long as relatively high prices continue. Also, insurance of horses and cattle would strengthen the forms of co-operative credit which we have already recommended, since it would enhance the security which borrowers could offer to the proposed Land Banks.

The advantages being thus so great, there is no question that insurance would be advantageous, if it were practicable. Co-operative cattle insurance has been one of the most successful phases of the general co-operative movement in France. This type of insurance has gone through two stages of evolution. De Rocquigny points out that it must rest on a local basis; and accordingly the initial step was to form local co-operative societies for the insurance of cattle. Many of these bodies might be described as local mutual guarantee societies, where an initial premium was paid by the members upon some pre-determined basis such as the value of their stock, or sometimes at so much per head. If the losses of the year came to more than the premiums collected, the members were liable to an assessment, and later it was provided that the amount of such assessment should be limited. In this form there is an interesting parallelism to the joint stock system with limited liability. Other co-operative societies resemble companies where the shares are fully paid, but the cattle insurance societies of the latter type are similar to the insurance company with an uncalled liability on its shares which cannot exceed a fixed maximum. The limitation of the isolated local society is that, in a year of heavy mortality in its district, the assessments would be very heavy, or, if these are limited, the full value insured may not be paid. Accordingly, to meet this eventuality, the societies over a large area were federated on the principle of a mutual guarantee of each other's policies. Thus, if the premiums received by one society were insufficient to meet its losses, the deficiency was provided by the surplus of the federated group. This method was first developed by the *Syndicat des Agricultures de la Sarthe*, which, after fifty *sociétés de secours mutuel contre la mortalité des bestiaux* had been established, federated these in a Union, establishing it with a grant of 20,000 francs from its reserve. With this sum in addition to the premiums of the local societies, it was possible to keep the claims on the members below 1 per cent. of the amounts assured, which 1 per cent. was fixed as the maximum.

In endeavouring to establish a system of mutual insurance for the cattle and horses of smallholders in Scotland, the absence of organisations of the type of the French "syndicats" precludes the following of the method adopted in France, where the work of propaganda was done by these bodies. It is possible that the Scottish Agricultural Organisation Society and the Scottish Smallholders' Organisation might undertake this important function. It would be necessary to begin with the formation of societies in local areas which were compact and of moderate size, so that the valuations of the stock insured and the claims for losses could be checked as easily as possible. As soon as a sufficient number of such societies had been formed, it would be equally important to constitute alliances amongst them for their mutual support. In this case it would be better to proceed on the basis of federating, first, those within the area of the regional Land Banks. Then, later, a Union for the whole country could be accomplished. It would be advantageous to keep this object in view from the start, so that the constitution and practice of the societies would proceed upon the same lines. When the point at which federation became possible was reached, we recommend to the consideration of the Board of Agriculture the making of a grant to the regional federations to put them in funds. In one sense such a grant is not necessary, since the contributions in the form of premiums should be so fixed as to meet the losses, but the stability of the system would depend on the societies and the federation being able to build up reserve funds, and hence in the early years progress would be comparatively slow. A grant would enable the scheme to develop more rapidly, and the time thus saved would much more than justify it. As to the amount of the grant, we would suggest that one-half per cent. on the total sums assured at a given date would be ample, and, after experience had been acquired, it would constitute a valuable reserve.

In this scheme the insurance of sheep stock has been excluded, owing to the exceptional risks involved, which are often general over a particular district. Therefore, there would be little advantage in forming a local mutual insurance society for sheep stocks. But, when the stage of a federation of cattle and horse insurance societies for the whole country was reached, it would be well worth the consideration of the Committee of Management whether the Federation or Union might not extend its operations to the insuring of at least some classes of sheep stock. When the whole country is included, there would be a larger element of compensation by the distribution of risks. The risks to which sheep are exposed

through inclement weather conditions are probably less than those from which French farmers suffer through hailstorms, and the latter risk has been undertaken with considerable success by co-operative insurance societies. In any case, it would be necessary that the consideration of insuring sheep stocks should not be entered upon until the Federation or Union had built up a strong reserve fund, which would enable it to meet a run of unfavourable years when losses were abnormally high.

ORGANISATION OF CREDIT.

We have then to provide machinery—

- (1) For the issue of short-term loans (from three months to five years)—
 - (a) To co-operative trading societies engaged in the purchase of seeds and agricultural requisites, and the sale of eggs and poultry, provision of raw material and implements, and sale of products of home industries, provision of agricultural machinery for farmers and crofters.

(All in cases where they require credit or wish to be in a position to give their members credit.)
 - (b) To individual farmers and crofters mainly for the purchase of stock.
- (2) For the issue of long term loans to societies of co-operative production to help them to obtain fixed capital.
- (3) To individuals desirous of accumulating capital to enter a holding, such individuals having in the meantime deposited sums in anticipation with the credit institution.
- (4) To stock insurance societies.

We do not recommend the creation of a central Land Bank to deal with this varied business. The history of all successful systems of agricultural credit shows that they must begin with local credit societies. In the course of time they may become federated and grouped round a central institution, which acts as their bank. As the French Authorities insist, agricultural credit must be decentralised and personal. This is inevitable where a system is worked normally through local co-operative credit societies. The principle still remains valid even if in Scotland the local co-operative credit society of the Raiffeisen type is not adopted—for under any system the case of the individual must be dealt with by an institution sufficiently local to be able to command direct knowledge of the credit of such individual applicants.

At the same time, as already indicated, we do not propose to adopt the French plan of local co-operative credit societies dealing almost exclusively in short-term credit, primarily with their individual members, and to a less extent with local co-operative trading societies. We think, however, that a number of district credit institutions should be formed resembling the French “caisses régionales.” Ultimately we hope that it may be possible to set up such an institution in every county where crofters and small farmers are at all numerous, i.e. in each of the crofting counties, in Aberdeen, Banff, Kincardine, and Perth, and again in the south-west of Scotland, as in Ayr, Lanark, Dumfries, and Galloway.

In the meantime it might be possible to form them in districts in which co-operative trading societies are at all numerous. Of such societies there are three definite groups (altogether about 300* in number) :—

- (1) The societies federated with the Scottish Agricultural Organisation Society.
- (2) The societies formed by the Scottish Smallholders' Organisation.
- (3) The societies affiliated to the Co-operative Council of Highland Home Industries.

It is hoped that all such co-operative societies would take shares in the County or Regional Land Bank. Until the whole scheme was in working order it would be necessary to make some provision for districts in which there was no County Land Bank.

For the purpose of determining where Regional Land Banks may be expected

* It is understood that this number has recently been considerably increased.

to be set up upon the evidence furnished by the present distribution of co-operative societies, we have ascertained that the societies federated to the S.A.O.S. and the S.S.O. are to be found in the following groups :—

- (1) Ayr, Lanark, Bute, Argyll (mainly S.A.O.S.).
- (2) Aberdeen, Banff, Elgin, Kincardine, Forfar (majority S.S.O.).
- (3) Inverness, Ross (in both counties Mainland and Islands), Sutherland, Caithness, Orkney, Shetland (both Societies—S.A.O.S. dominating in some districts, such as Orkney, Shetland, Inverness-shire; S.S.O. in Easter Ross, Sutherland, Caithness, Skye, Lewis).

It might be possible to set up two Regional Land Banks in each of these areas, *e.g.* :—

- (1) At Ayr and Oban.
- (2) Aberdeen and Banff.
- (3) Inverness and Thurso, perhaps with a third at Kyle.

FINANCE.

While the advantages of the County or Regional Land Banks from the point of view of organisation are considerable, these are powerfully reinforced by financial needs. It is the relatively poor locality which requires credit most, and such a district often has not the means to provide the necessary basis of capital upon which co-operative credit is built up. It is true that this difficulty is met in the co-operative credit society of the Raiffeisen type, through the unlimited liability of the members. This affords a security upon which the Society effects loans. But subsequent developments have introduced some degree of inequality as between the co-operative society for production or for the purchase or sale of commodities, and the purely credit society in so far as the liability of members in the former is limited, and in the latter is unlimited. Thus a disability is imposed upon credit for agriculture proper as contrasted with operations or processes accessory to agriculture. This characteristic is another reason against the formation of credit societies as such, based on unlimited liability.

Probably co-operation has advanced in Scotland almost as far as is possible without the aid of funds from outside. In the future it may be possible that County Land Banks or a Central Land Bank might be able to borrow through ordinary commercial channels, but in the initial stages these institutions would require to be financed partly from public funds, though the interest paid to the State should at least cover that which the State itself would pay for the capital lent to these bodies. But at the same time, it is essential that it should be a condition that funds should be raised from private sources precedent to the obtaining of a loan from public funds. The sources from which a County or Regional Land Bank could obtain private capital would be (a) the subscription for shares by individuals who were interested in the agriculture of the area in which it operated—the dividend on the shares should be limited to a moderate return, as is usual in co-operative societies; (b) the subscription for shares by co-operative societies; (c) deposits by individuals; (d) deposits by co-operative societies of surplus funds; (e) deposits of other bodies connected with agriculture. Thus the Rural Workers' Friendly Society might be disposed to deposit some of its funds with the Land Banks. In all cases it would be a condition of making a loan, whether to a co-operative society or to an individual, that each should be a member of the County Bank by the holding of shares. Perhaps depositors might also be eligible for loans. Such a concession would favour a possible development, which is deserving of encouragement. At present farm workers are getting higher wages than formerly, and many of them are unmarried. They should be urged to deposit their savings with the Land Bank as already suggested, with a view to building up a sum which, with the assistance of a loan from the Land Bank, would enable them later to take holdings themselves.

The advantage of the County Land Bank is that its funds are distributed over the area of the bank where they are required most. Often a parish which is most in need of capital cannot provide enough, while on the other side another is capable

of providing more than it can use. Still, we are of opinion that there are some counties which could not furnish their Land Banks with the subscriptions for shares and with the deposits which could be used profitably in co-operative credit in that county. In several cases we found districts where there was a great desire and favourable prospects for co-operative milk depots, and efforts to raise sufficient capital had failed. Also the poorer Highland counties are obviously cases in point. For these reasons assistance to the County Land Banks in the form of loans would be required.

Such loans should bear some proportion to the amount raised in the locality. In the procedure to be adopted, there is a distinction between the objects on which capital is to be expended. The funds employed in making short-term loans to individuals or co-operative trading societies should be provided as to one-half from the subscriptions of members, and as to the other half by loans from the State. In other words, for short-term credit each County or Regional Land Bank would be entitled to borrow an amount from public funds equal to that paid up upon its shares. In the case of long-term loans to co-operative societies for production, it is advisable to employ a different method. Such a co-operative society, like a co-operative trading society, seeking a loan, would require to hold shares in the County or Regional Land Bank, and it would be the duty of the latter to report on the application. If that report were favourable, it would be transmitted to the Board of Agriculture, which, in its turn, should be empowered to authorise the grant of the loan. In this case also the amount of the loan should not exceed the paid-up capital of the society. This divergence of method, which resembles that adopted in France, is based in part upon the divergence of interest as between the users of short-term and long-term credit. Since the latter require much larger sums in each case taken individually, if a County Land Bank has only a limited amount of loanable capital, and if it dealt with both classes of loans, the natural result would be that the applications of co-operative productive societies for long-term credit would rarely succeed—a result which would deprive the extension of co-operative credit of a large part of the success anticipated from it. Accordingly, it is desirable that there should be a separate fund for loans to co-operative societies requiring long-term loans administered in the manner described.

Necessarily, the proportion between the capital found locally and that lent by the State cannot be fixed with absolute precision in advance of specific experience. The management of the loans made by County Land Banks will be in the hands of the Committee of Management, and it is essential that the management should be as trustworthy and efficient as possible. The essence of the idea of co-operative credit is that the fund of loanable capital should circulate amongst the agricultural community—thus in a few years a given sum lent will first aid the production of one, then of another, and later of others. Even in the case of long-term loans, instalments will be repayable annually. Therefore it is essential, not only to prevent losses, but to ensure punctual repayment, that the local contribution to the funds of the bank should be substantial. Also, there is the point of view of the security of the capital lent by the State. As a loan it would take precedence of the shares, and a margin of 50 per cent. security for that loan, both to County Land Banks and co-operative societies, should be ample. The stimulus of raising a respectable amount in the locality would operate in making interest in the Land Bank widespread, and would tend to secure supervision of the management by the members. The consideration that the funds for lending would be at least double the amount subscribed should induce sufficient subscriptions for shares, even in comparatively poor localities. If in any district, where there are funds available for investment amongst the agricultural community, the response is inadequate, this is a plain indication that, if a bank were established, the management is not likely to be efficient, and the safety of a State loan would be jeopardised.

ADVANCES TO NEW TENANTS OF SMALL HOLDINGS FORMED UNDER THE LAND SETTLEMENT (SCOTLAND) ACT, 1919.

Section 29 of this Act allows the Board during a period of two years from the passing of the Act to make or guarantee an advance by way of loan to any person settled under the scheme of land settlement contained in the Act, either as a land-

holder in terms of the Small Landholders (Scotland) Acts, or as a tenant occupier in a small holdings colony under the Small Holding Colonies Acts, as amended by the Act of 1919, such advances being intended to facilitate the purchase of live stock, seeds, fertilisers, and implements required for the holding.

The powers given under this section need not differ fundamentally, except that they are exercisable for a more limited set of purposes, from those conferred by Section 16, which enables the Board to make advances to Land Banks and credit societies, since ultimately it is for the benefit of individual agricultural occupiers of land that advances under the latter section will be made; and we do not gather that advances under Section 29 cannot be made to new holders who may choose to group themselves for the purpose of buying stock, implements, or other agricultural requisites. We note that in the Regulations made by the Treasury under the corresponding section of the English Land Settlement Act, 1919, advances to an individual under the Regulations shall only be approved where, in the opinion of the County Council, the facilities for obtaining advances from a society on a co-operative basis are inadequate.

This provision, however, only refers to co-operative credit societies, not to co-operative trading societies through the use of which a new holder might lay out his advance more economically.

We are therefore inclined to recommend that advances to new holders under Section 29 should generally only be made in respect of the purchase of seeds, fertilisers, and implements to new holders who were prepared to get these requisites through co-operative societies. There seems less need for waiving such a condition, as, in point of fact, at most of the settlements made by the Board of Agriculture for Scotland under the Small Landholders Acts, co-operative societies have been formed among the new holders. On any groups of new holdings on which dairying or the raising of stock is to be carried on, there seems no reason why the Manitoba cow scheme should not be adopted in its general features.

Advances to new holders must be subject to one consideration, which is not present to the same degree in dealing with advances to agricultural occupiers already in being, *i.e.* that the advance which a new holder would require would on the average be larger proportionately to his own working capital than would be required in general by an existing occupier. In this connection we notice that under the Treasury Regulations already referred to no such advance is to exceed in amount the working capital which the new holder has.

Otherwise, and subject to an exception with which we propose to deal shortly, we do not see why advances to new holders should not be made on the same conditions as those already suggested for advances to existing occupiers for similar purposes. Advances under Section 29 of the Act of 1919 will, in fact, come under the head of short-term credit, and naturally they will be repayable in periods varying from one to five or six years, according to the nature of the object, the shorter for seeds and fertilisers, and the longer for implements and stock.

If any of the Regional Land Banks recommended by us are set up at an early date (subject to certain arrangements as to finance), they, on behalf of the Board, deal with this business. It would give them a definite piece of work to do in their early days, while their other business was growing. Possibly an attempt might be made to set up the first Regional Land Bank at Inverness for the counties of Inverness and Ross, and an Officer from the Board's Accounts Division might be detached for a year to help the work—more especially the Section 29 cases arising in these counties.

The rule which we have suggested requiring that a Regional Land Bank should find as much capital otherwise as the amount which it gets from public funds obviously could not apply to cases coming under Section 29 of the Act of 1919. No such institution could carry on its business on the basis that any great number of its clients were just entering on agricultural holdings for the first time, and as the provisions of Section 29 are to be in force for two years and the loans to the Board for land settlement under Part IV. of the Act for the like period, these cases will presumably be numerous during the next two years. The bank might get a small commission based on the amount of instalments of repayment collected.

Hence the *whole* advance to a new holder under Section 29 of the Act of 1919 would have to come to the Regional Land Bank from central funds. In this

connection we notice that the making of such advances is a purpose for which the Board may borrow money under Section 26, which generally provides for borrowing for the purposes of land settlement under the Act.

Thus for this particular set of credit operations the Board has not to draw upon the Agriculture (Scotland) Fund, which alone, together with any funds obtained from the Development Fund, is available generally for helping the building up of a system of agricultural credit in Scotland, and we trust that the Board will use, for the purposes of Section 29, a suitable amount of the 2½ millions available under Part IV. of the Act of 1919. There should not be much "writing off" of the money so applied.

Some consideration should be given to the special case of sheep stocks bound to hill sheep farms taken for subdivision into new holdings. The purchase of such sheep stocks is one of the purposes for which the Board may borrow in terms of Part IV. of the new Act. It is assumed that normally the sheep stocks will be resold to the new holders. There are certain features about settlement on hill sheep farms in the Highlands which cannot well be disguised. Such farms are sheep runs with very little arable land, the low ground commonly being used largely to provide wintering for the ewes. Under the club stock system they remain co-operative sheep farms. The low ground being allocated partly to form the individual holdings will now be used to a slight extent for growing oats and potatoes, and as more cattle will be kept, more hay will be taken. The sheep stock will thus to a certain extent be diminished. Yet the main economic function of the sheep farm will not have been changed. It is a mark of all such farms that the farmer's capital in the stock is the chief source of wealth; the original or improved value of the land relating to it is much lower than the corresponding value of the landowner's interest in any other agricultural subject. The labour on such a holding is of one definite kind—for the shepherd's work is almost entirely with the stock, and not bestowed on the land. All this means that to make advances to new holders to enable them to buy the sheep stock is doing much more for them than is likely to be done by any similar assistance to any other set of persons settled on the land.

Looking at the relative ease and cheapness with which houses and other buildings can be put up in such districts (for which we do not wish to deny the crofting class a great deal of credit), we may say that the loan for stocking is the most important purpose for which assistance will be made to new holders in settlements of this kind. As the stock will be a club stock, the returns from the joint enterprise will come in to the holders more easily than the returns to other kinds of smallholder. Their holdings in the club stock will be more like an investment. For all these reasons we think that these loans should be repayable in a fairly short term, and that the usual grounds for pressing for exceptional treatment in congested districts do not exist here. We ventured to suggest in our former report that for "economic" holdings created elsewhere the joint annual payment for land and houses will be high enough to force the Government to let the occupiers of such holdings have loans for stocking on fairly easy terms. Six years for repayment and five per cent. interest should, however, be sufficient for crofters settled on sheep farms. It must be kept in view that the crofter who is a joint stock sheep farmer in Skye or Sutherland or Inverness-shire is not working so hard for his return as the crofter who raises West Highland cattle in the Uists or Polled Angus in the eastern part of Ross and Inverness, and that he ought in justice to these other kinds of crofter be pressed rather to put in as much work as they do in some shape or other in order to pay up the advance on his stock at an early date.

If, therefore, any difficulty is to be anticipated in paying up such loans on the terms suggested, it seems to us for consideration by the Board whether they should attempt to maintain every subdivided hill sheep farm primarily on that footing and should not acquiesce in a considerable reduction of the sheep stock, especially as at the present time the difference between hefting and market value is less than it has been for many years, and therefore little loss would be sustained by selling off. We understand that the Board have recently acquired a considerable area of land on the west side of Skye round Loch Bracadale. We hope that this land will not be used simply to set up crofter sheep farmers. A great deal of it appears to be capable of use for dairying, and a co-operative creamery might well be set up here, as Skye is near two railway termini.

The inhabitants of Skye are not satisfied with their present system of communications. It is not, however, always realised that until the production of commodities on, and the exchange of them between, an island and the mainland increases, it is difficult to improve communications. What Skye suffers from as compared, *e.g.*, with Orkney, is too much area under sheep and too little production of other kinds. We realise that the physical features of Skye must always make it more of a sheep country than Orkney—but sheep alone justify only the poorest of communications.

The machinery of loans to enable new holders to take over sheep stocks has been fairly well worked out, and is now understood. From the nature of the case, the ewe stock being "bound" must remain on the spot, and therefore the security cannot well be depreciated. Moreover, the stock being a club stock, the herding will be done by a shepherd, and the arrangements for selling lambs and wool and cast ewes, and for wintering, will be managed by a Committee. These processes are more or less standardised by the Board, who can easily arrange to exercise control by putting one of their Officers on the Committee; and the repayment of loan capital can be arranged to happen almost automatically. If the management of this form of credit is entrusted to a regional bank, we are inclined to think that it would be almost as convenient to have the loan made by bills renewable annually as by a loan for a definite term of five or six years. If a new group of crofter settlers are not able, in spite of present prices of stock, to accept transfer of the stock on the terms suggested, it should cause the Board serious misgivings about the basis of the settlement. If, however, they decide to proceed, it seems to us that it would be better to postpone for a term of years any arrangements for repayment and work the club farm on a profit-sharing basis, under which the Board might be content with such share of the profits as would represent an annual contribution towards interest and sinking fund. There would be no legal difficulty about such an arrangement on any land owned by the Board; and any such difficulty on land otherwise owned might conceivably be met by the insertion of a clause in the conditions of let which would avoid non-compliance with the statutory provisions against sub-letting. No landowner, we imagine, would object to such an arrangement, as in fact the Board would be thus indirectly responsible to him for a share of the rent.

As we have already indicated, we think that the best way of dealing with applications for advances to new holders under Section 29 of the Act of 1919 would be to set up Regional Land Banks without delay. If, however, that is impossible, in our view it will be better for the Board in the meantime to deal with them, as the Board's officers will be responsible at the outset for selecting the applicants for the occupation of the newly-formed holding.

We are aware that hitherto such loans as have been made to new holders on hill sheep farms in the crofting counties have been made from the Scottish Land Bank maintained in connection with the Scottish Smallholders' Organisation. The intervention of this body was called for, because the Board did not appear to have power to make such advances under the Act of 1911. It now emerges that the Board could have done so under the Congested Districts Act, and as most of the cases arose in the congested districts, the lack of any power under the 1911 Act was not a serious disability. While the Scottish Land Bank did valuable emergency work, there are difficulties in using its organisation as at present constituted for loans for taking sheep stocks, and for advances in general to new tenants. If there is one thing that a central institution should not do, it is to have direct dealing with individual applicants for credit—no central bank for agricultural credit was ever constructed with such a function. That the arrangement did not break down in the few cases in which it has been tried is due largely to the fact that the Board was the authority really responsible for securing credit to the new holders, who got loans through the Central Land Bank to take over sheep stocks. Moreover, to continue to use such an institution on an entirely false set of arrangements would only be to jeopardise the chances of getting suitable machinery for agricultural credit set up in Scotland. The making of advances under Section 29 of the new Act in practice cannot well be divorced from the general operations for the agricultural community sanctioned by Section 16 of the Act.

MÉTAYAGE.

It is curious that modern French writers seem to be interested in métayage primarily as a form of agricultural credit, emphasising one feature of it, *i.e.*, that the landowner places at the disposal of the métayer a large part of the working capital required for the holding. It is perhaps this aspect of it which leads us to suggest that something of the kind might be adopted in some cases for settling men who have less capital than the ordinary farmer and yet are to be tenants of an agricultural holding. It is a natural result of the contribution by the landowner of part of the working capital that he shares the profits with the métayer, and the land, which is also provided by the landowner, is treated as part of the general capital of the joint undertaking. The dwelling-house and garden are, however, often treated separately and a rent is charged for them. Métayage is a survival from a time in which the normal existing arrangements for carrying on agriculture in the more advanced European countries had not been evolved. These are—

- (1) the normal British arrangement, *i.e.*, the landowner lets the holding to a capitalist farmer, who employs wage-earning labourers ;
- (2) occupying peasant ownership with little hired labour—common in Western and Central Europe ;
- (3) the direct working of the land by its owner as a single holding (of larger size than a peasant's holding) with hired labour—as in Prussia east of the Elbe.

Métayage in some respects is nearest to the British system, and if a métayer holding is transformed into any other tenure, the change usually is into a farming tenancy, and both landowner and métayer alike often welcome such a change when it is possible. But it should be kept in view that the British system implies three things which are found together in most parts of Great Britain but not elsewhere. These are—

- (1) large holdings ;
- (2) capitalist farmers ;
- (3) specialised wage-earning labourers.

(2) and (3) particularly imply and postulate each other. In France, on the other hand, labour is represented rather by a landholding peasantry, and not by a landless class of wage-earners. The great numbers of this landholding peasantry have made it usual for the ordinary peasant to be ready to take charge of a small holding. Hence, if at an earlier date a French landowner wished to get his land cultivated, in default of a farmer class, he let his land out in métairies. This arrangement was formerly much more widely spread over France than it is to-day, when the West and the South-West are the regions in which the tenure survives. There are few districts in which métayage is common north of the Loire or east of the Rhône. The latest agricultural census taken in France took place in 1892, so that the figures are hardly up to date. Apparently, however, at that time there were 350,000 métayer holdings, as against one million farms and several millions of peasant properties, including therein very small holdings. The average métairie, however, is much larger than the average peasant property. Thus in 1880, 18 per cent. of the total area of France was under métayage, and 21 per cent. under peasant proprietorship. Earlier, in 1872, 11,182,000 hectares were in métayage, and 9,360,000 in "propriété paysanne." Apparently, however, later agricultural depression favoured métayage again.

These figures show two things—

- (1) that métayage has been giving ground over a generation, but probably more to "farming" than to peasant proprietorship, for it is easier to convert one kind of tenancy into another than to have a sweeping transfer of ownership. The period of depression, on the other hand, would convert farmers into métayers ;
- (2) that the average métayer holding is larger than the average peasant property, and more comparable to the "family farm" of some parts of Scotland.

Again, as the area under farms is rather more than twice that under métairies while the number of farms is nearly three times that of métairies, the average métairie is again larger than that of the average farm. Our own observation confirmed this view. Thus so far as the size of the holding goes to determine agricultural progress, métayage may be claimed to support a higher form of culture. The very fact of land being let in métayage often implies that it is not likely to be offered for sale, for in many cases the owner of a métairie is interested primarily in some urban occupation, and so has thus dealt with his real estate rather than by selling it. Not that this is the rule, or that estates composed of one holding are common. Where they do exist, and the owner is resident, the métairie is like a home farm worked for profit on a profit-sharing basis.

The valley of the Garonne, with its tributaries the Lot and the Tarn, is a great home of métayage; so, too, is that of the Dordogne, and to a slightly less extent the Charente. Again, in Auvergne, the Department of the Allier is thronged with métairies.

According to the last agricultural census, now fairly old (1892), there were 11 Departments with more than 15,000 métairies in them, in the districts already indicated. The survival of this old form of tenure in these districts is due partly to social reasons. In some of these districts, the old régime was most tolerable to the peasantry, and the Revolution made less difference than in the North and East. It is, however, something more than a historical survival, only waiting until it is superseded either by farming tenancy or peasant proprietorship. Lord Ernle, in a chapter on French Farming in his *Pleasant Land of France*, notes that it tended to increase in the depressed times of the late nineteenth century. Farmers sought to become métayers, invoking the assistance of their landlords, just as British farmers might have asked for a reduction of rent. As we have seen, it is as a device for giving credit to the cultivator of the soil that some modern writers regard it. Thus M. Zolla, in his *Agriculture Moderne*, speaks of the "rôle du propriétaire comme prêteur, et comme associé du cultivateur." As he says, it is not only the land and the buildings that the owner places at the disposal of the métayer. Quite frequently, the owner lends also the half of the sowings, the half of the stock (if not the whole), and sometimes an advance to pay wages, etc., for the harvest.

Hence, the landlord puts at the disposal of the métayer five-sixths of the total capital (fixed and circulating) required for working the holding. Taking the number of such holdings as about 350,000 (census of 1892) and the value of the average "advance" by the landlord to the métayer as 2,000 francs (£80), he estimated the total sum provided in this way as 750 million francs.

Similarly, M. de Marcellac speaks of métayage as "un modèle d'association du capital et du travail . . . qui contribua si puissamment à transporter dans le domaine pratique les expériences coûteuses tentées par la grande propriété."

"Là, le propriétaire, détenteur du sol, apporte avec la terre le crédit, c'est-à-dire le capital et des connaissances supérieures, tandis que le métayer, le colon, apporte son travail, son expérience du sol, sa compétence dans les soins journaliers des animaux."

He mentions the Limousin, one of the great feeding districts of France, as owing its development largely to métayage.

Lord Ernle, speaking of the conditions of the system in an earlier day, says, "So long as landlords were resident the system succeeded, because the métayer worked under the eye of his partner. But when estates were too small to offer inducements to landlords to adopt a country life, or large enough to support them as courtiers, the system was grossly abused. Landlords resided in towns because town life offered more distraction to the wealthy or more professions to the poor. They knew nothing of farming, abandoned the sentiment of their position, looked upon their land as so much capital realising a certain interest, and generally handed it over for fixed payments to bailiffs, who sublet to the métayers. This middleman, frequently a solicitor, was, like his employer, a citizen. He knew too little of farming to improve the yield from the land, and yet was determined that it should yield three rents. The terms of the tenancy grew more harsh, and the contribution to the stocking of the farm ('cheptel') more niggardly. . . . The métayer, never receiving any advice or instruction, surrounded by other tenants as ignorant as himself, plodded on in the footprints of his ancestors, content if he could avert

starvation from himself and his family. With his land and farm buildings he was given a 'cheptel,' consisting of eight oxen for the plough, half a dozen lean, wretched, inbred cows, a small flock of sheep, and two or three sows. All the animals were dwindling to half their proper size. Two-thirds of the land was arable; an unmanured meadow occupied one-tenth of the farm; the rest was left, with the assistance of broom, heath, or gorse and coarse pasture. The land was incessantly cropped for potatoes, buckwheat, maize, barley, rye. The métayer's own contribution to the stock was about a fourth of that of the proprietor—two carts, two or three wooden ploughs, two harrows (also of wood), the harness of the oxen, sickles, hoes, and other implements."

Since the period here described, the system seems to have had a new lease of life. Lord Ernle thinks that (apart from the importance of a resident landlord) "one condition of success is that the farm should not be too large to be cultivated by a single family. If hired labour is employed, the conditions of the tenancy become complicated by the question of wages, and misunderstandings frequently arise." Speaking of modern conditions he says:—"Far more capital is put into arable farms by both the partners. Formerly the value of the landlord's 'cheptel' rarely rose above £40, and the tenant's often fell below £10. Now both parties often contribute from £70 to £100 apiece, besides the capital which the landlord has sunk in the improvement of his land." This agrees with M. Zolla's estimate of the average amount of the landlord's share of working capital.

Lord Ernle has brought together in a brief compass the main features of the arrangement. "The métayer pays a necessary rent, which represents half the land tax, half the seed corn, the rent of his house and private garden, his use of potatoes, milk and wood, and the profits of his poultry-yard, the larger share of interest on invested capital which belongs to the landlord. This rent varies from 1s. to 2s. an acre. Subject to the deduction of this sum, or its equivalent in kind, the profits or produce of the farm are equally divided. The landlord contracts to keep the buildings in repair, to maintain the fire insurance and to pay the taxes. The métayer agrees to keep the fences and implements in good order, to till the soil and tend the stock 'en bon père de famille' (the French equivalent of our 'according to the rules of good husbandry'). All forage crops grown on the farm are to be consumed on the premises; the milk is set aside in the first instance to rear the calves—the surplus belongs to the métayer. The cattle and other live stock are valued at the commencement of the tenancy; at the close of each year, or at the expiration of the lease, the profit or loss is shared between the partners. All the expenses of cultivation fall upon the métayer. The course of cropping, the sale and purchase of stock, and the general plan of management are determined by agreement between the partners; in case of dispute the landlord's will prevails."

This may be said to be the normal type of arrangement, but manifestly, in a form of tenure which exists over a considerable part of France, there is room for variation, and in a collection of "Usages Locaux" in force in the Department of la Vienne, the chapter on métayage, or "colonage partiaire," as the lawyers prefer to call it, the "usages" of 80 districts—mainly groups of cantons—are summarised.

It is plain that great differences of opinion exist in France as to the value of the system. All critics who consider the economic aspect of the system, insist that the landlord should be resident. At the same time, in districts where he is normally resident, the social side of the institution is often criticised from the point of view of "advanced" thinkers, who allege that it tends to maintain the peasantry in a state of feudal tutelage. As against this view should be set the disposition, undoubtedly shown by certain landowners, to be rid of the arrangement and to convert it into "fermage." This feeling arises where métayers have been able to modify the arrangement in their favour, as they have in some districts. Equally the métayer would like rather to become either a farmer, as he would then get all the "bénéfices," or, obeying the universal prompting in the heart of the French "paysan," own a small holding himself.

The system seems to be fluid to a certain extent—and so far as it is so, to be the subject of contention between the parties. Thus the métayers seem to feel it a grievance if they are called upon to pay the "impôt foncier." On the other hand, in some districts they seem to have pushed a claim in recent years to two-thirds

of the profits. Side by side with such a demand, one meets cases where the métayer does not put into the joint undertaking even the half of the working capital, which is usually taken for granted. Where he does not, he pays interest on the advance made by the landowner. It is difficult to see how under such conditions the métayer can make the business pay.

Apparently if the relations between the parties are to be strained, disputes will arise over the main forms of produce, especially those of "la basse cour," as the French call the poultry-yard. It would naturally be thought, too, that difficulties might arise over the consumption at home by the métayer's family of a share of the produce. The amount so consumed, as we were assured by one landowner, comes out of the métayer's share of the profits. Even so, it does not seem easy to bring this share to account.

And so far as we could make out, the métayer has to buy in a great deal for home use. Thus one such tenant whom we visited near Angoulême insisted that the high price of the things that he had to buy was a very real set off to the higher prices obtained for agricultural produce.

The collection of "usages locaux" in Vienne referred to brings out the complexity of the arrangements that have to be made. The chapter on "colonage partiaire" describes it as neither the lease of a farm nor an ordinary partnership, but partaking of the nature of both of these contracts.

The arrangements with regard to length of tenancy, the upkeep of the subjects let, the method of farming, the terms of entry and outgoing, the mutual facilities to be given by the incoming and outgoing tenant, are declared to be the same for métayage as for ordinary farm tenancies.

The "usages" relate mainly to the respective responsibilities of the two parties, as the profits are held to be divided equally—this method of sharing being indicated by the very term métayage (moitié) and even more clearly by the Italian "mezzadria."

Perhaps the most systematic "recueil des usages locaux" is that of the Department of La Charente. These had been codified as far back as 1855, and in 1907, the Minister of Agriculture authorised cantonal commissions for the revisor of the collection. These commissions met under the presidency of the local "juge de paix," and the reports were approved by the "Conseil général" of the Department in 1908. The term of contract in La Charente is often for three years; thereafter, as we learned from the métayers, it is usually renewed from year to year. If no notice of determination is given by either party by the 25th of December, the contract remains in force for the following year. In many of the cantons the agreement is always verbal, and is governed by the custom of the Department subject to any modifications in the particular canton. In this Department, the general custom is that the proprietor provides seed, animals, cart (charrette), lorry (tombereau) if one is used. The métayer provides the ploughs and the remaining farm implements, wheel-barrows, and the ladders. Artificials are purchased from funds furnished by the proprietor, but are charged in equal portions against his share and that of the métayer. Purchase and sale of animals is subject to the permission of the proprietor ("à son gré"). Out of the proceeds, the métayer is allowed his gratuity (known as "pièce"), amounting to 6 francs in the case of a pair of full-grown cattle; thereafter the balance is divided equally. The produce of the land is divided equally, except that the métayer is entitled to such potatoes, cabbage, turnips and carrots as are necessary for his family, while the garden produce is assigned to him exclusively. Generally speaking, the products of the "basse-cour" are likewise divided, either in money or in kind. The case of eggs is an exception where special arrangements are often made. Any rabbits reared belong to the métayer, upon condition that the quantity is limited to the needs of his household. Finally, the métayer is bound to give all his time and that of his family to the work of the métairie.

The following are instances in which the foregoing general customs of the Department are supplemented or modified by practices of the cantons—the cost of threshing-machines is divided, but the métayer feeds the workers and supplies the animals to draw the machines (Montmoreau); in Confolens Nord, the "cheptel vif" includes all living animals on the land except dogs, the latter and the fowl belong to the métayer; in Confolens Sud, the proprietor supplies the métayer

with wood; in Champagne-Mouton, the proprietor usually pays three-quarters of the price of lime used in improving the land.

In Vienne, there seems to be room for difference of practice as to the provision of machinery and implements; carts, ploughs and harrows being provided sometimes by the landowner, sometimes half and half, and sometimes by the métayer. Again, the cost of providing seeds, chemical manures, paying the veterinary surgeon, shoeing animals, repairing implements, may be halved. On the other hand, the wages of hired labour and the cost of threshing are usually met by the métayer. A métayer whom we visited near Angoulême impressed on us that he had to pay the wages of the attendants of the travelling threshing-machine, who would be with him for two or three days, at the rate of 500 francs a month, besides finding them food. There were four "métairies" on this estate, and the mansion-house of the "châtelain" stood on a ridge a little above the farms. The proprietor was old, and explained to us that he no longer took any part (or apparently any interest) in the management of the estate, and referred us to his son, then at Cognac, which was many miles away. So, with his permission, we interviewed one of his tenants. This "métairie" contained about 40 "journals" (an old unit of measurement often referred to by Arthur Young, and apparently not yet superseded in popular speech by the hectare, of which it is about a third, or a little less than our acre) of arable land, besides meadows and woodlands. His stock was good, three or four Limousin cows and a bull, as well as some young beasts. He raised bullocks, for which the Limousin breed is most suited, but sent the milk in to the neighbouring little town of La Rochefoucauld, from which the well-known writer of Maxims took his title. He had 22 ewes with lambs. Wool is one of the products shared half and half. The landlord's share was sold, but the métayer's spun by his women folk.

The sheep were fed in the field or in the woods all the year round and got no other feeding. In winter, the cattle were given hay and forage crops, clover and lucerne to eat, as well as crushed maize. They had few pigs; disease had discouraged pig-feeding. Vines were grown, and the grapes pressed on the holding. One elderly "domestique," or farm servant, was kept. They had also with them a young widowed sister-in-law, whose husband had been killed in the war—her future seemed to her to be desolate. A double furrow plough, called by the French "la charrue brabant," was lying in the field. The métayer assured us that ploughs of this kind had been common in the district for a dozen years past, perhaps due to the influence of the local "syndicat."

The métayer seemed to go to the landlord whenever he wanted money to buy stock—we did not gather that he was charged interest on these advances. Nor did he pay rent for his house or the "impôt foncier" (land tax). Perhaps it was for such reasons that he was content with his lot. He had been on the holding ("boy and man," apparently) for thirty years longer than any of his neighbours. It cost him 100 francs a year, he said, for upkeep of buildings, which had recently been roofed and seemed in good condition. Tiles were very dear at present. The family were intelligent, and soon entered into the purpose of our enquiries. When, however, we exchanged a few comments in English, they thought that we were talking in patois.

We made further enquiries into métayage in the Department of the Tarn and Garonne. The Director of Agricultural services at Montauban thought that, as worked in that Department, it was a good system. A mixed style of farming prevails; vines, maize, wheat, oats and forage crops are grown. Hay is sold outside the region. There is not much raising of cattle. Formerly, sheep were kept in the hill district of Quercy, but the flocks were diminishing, as the shepherds, who had been paid partly by a share in the profits, were leaving their calling.

We visited a few métairies near Montauban, and from the differences that we observed in three such holdings quite near one another, could see that it is difficult to say of this as of many other systems, that it is entirely good or bad. The first holding did not give a good impression. It was almost 40 acres in extent. The people were poor; there was an elderly couple, a grown-up unmarried son and a daughter and her husband. The implements were poor. The house and buildings were good. The proprietor lived quite near. The family who had been in the holding seemed unprogressive and dispirited. The next holding was about 70 acres. The stock was numerous and the house and buildings large and roomy.

The tenant had been there for ten years, and was shortly leaving to take up a small holding of 12½ acres with house, which he had lately bought. It struck us as curious that a man should wish to come down to farming on a smaller scale, but presumably he expected to make more profit. He was clearly an energetic farmer, who in time would add to his little property.

The third holding was like a home farm, as the mansion-house of the proprietor was on the holding, which was 100 acres. We found him and the métayer in consultation. The vintage was going on at the time of our visit. The proprietor was a Judge of the Egyptian mixed tribunals, and therefore away from the estate most of his time. He admitted that, this being so, the supervision was not very effective, and thought that the tenant did not scrupulously account for everything. In the district, apparently the owner usually advances all the capital required for stocking, without charging interest. This particular owner would have been glad to turn the arrangement into a farming tenancy, as would most of the owners in the district, but it was difficult to get farm tenants, as all who had any capital bought land for themselves. He told us that landowners were selling land largely to peasants who had made money during the war. He thought that the supply of métayers was running short due to the falling birth rate. The métayers tended to be a caste. It was rarely that labourers took a métairie.

He was inclined to argue that the system was not progressive, having found his own tenant unwilling to put artificial manures on the land, on the ground that he might not stay long enough to exhaust their value. It may be observed in this connection that métayage is usually a contract for five or six years.

To an observer whose notions have been formed by the arrangements of British agriculture, it might appear strange that the system of métayage has not passed away. To him the economic motives for bringing it to an end would appear to be very strong. He would argue that the owner would always prefer to let his land to an ordinary farm tenant, and again that the métayer would have every incentive to buy out the owner's share in the working capital. Such a critic, however, would reckon without the alternative attraction presented to the landless cultivator of the soil in France by the possibility of acquiring a little property of his own with a homestead. This is the rival economic force which tends to keep métayage in being, so far as influence in favour of modifying it might come from the tenant.

In France, and especially in the South of France, the owner of what is called "la grande propriété," i.e., anything over 125 acres, has long been in difficulties. Such a man is not what we understand by the owner of a large estate. "Estate" and "holding" always tend to be treated as interchangeable terms in French writing. Hence the possessors of "la grande propriété" are, by our standards, a great number of rather small owners. At the same time in France they are above the level of the peasantry. Hence their conventional standard of life is higher, and at the same time their economic efficiency is relatively lower.

"Le chef de famille a rarement l'intelligence des méthodes ou l'habitude d'un travail régulier. Il exploite à l'aide de bras étrangers dont, faute d'une direction constante, il ne retire que des résultats incomplets."

This gives a ground for the survival of a system like métayage.

From another point of view the system has certain merits, for it tends to check the subdivision of land, which inclines to be excessive in certain parts of France. We have seen that the average métayer holding is much larger than the average peasant holding. A proportion of larger holdings is thus preserved. Inevitably they require more capital, and this additional capital is supplied by the landlord. Moreover, when a family has a "grande propriété" let in one or more farms or métairies, the tendency to break up such an estate on the death of its proprietor must be weaker than it would be if the owner had been a member of the peasant class, and therefore more of a working farmer.

Thus, for one reason or another, the system has survived, and outside France it flourishes in Tuscany, as well as in other parts of Europe. Naturally we have nothing of the kind, because over the greater part of Great Britain land is held in holdings let to capitalist farmers, and in Ireland and the Highlands of Scotland, where peasant holdings have persisted, the reverse of métayage is the rule—for the tenant provides the permanent improvements as well as the working capital. To-day, however, we are introducing small holdings into our rural economy by an

Act of State; they are not coming into being through the natural play of so-called economic forces. Hence the arrangements existing in countries where small holdings are the rule are worth studying. The conditions under which the Government is carrying on land settlement have this in common with those under which métayage exists, *i.e.*, that the owner of the land on which the new tenants are to be settled (being the Government) has also to provide part of the working capital required by the new tenants. Further, in Scotland the Government for this purpose is the Board of Agriculture, which, as such, has more facilities than a private landowner for directing the actual working of the holdings, just as in France the owner of métayer land directs the course of cultivation.

Further, in view of the possible depreciation in the next few years in the working capital invested in such new holdings, a system of profit sharing as between the Government and the new tenants, combined with the Government supervision of the undertaking, seems to give the taxpayer better security for the outlay of his money than can be obtained if the new holder, who has neither the capital nor the experience of an ordinary farmer, were put on the same footing as a working farmer.

It may be argued that if the profits are shared equally (the working capital being provided half by the Board of Agriculture and half by the settler), the tenant may not make enough in some years to live upon, and that it is easier for him to pay a rent for the land and interest on the advance of capital. We doubt this, having in view the old axiom that a farmer should make "three" rents, one to pay the landlord, another to cover working expenses, and a third for his own net profits. Under the profit-sharing arrangement, the "tenant" will not get less than this last third.

Also, under the alternative method of making the new holder an advance of working capital, the borrower will be held bound to repay the advance in a short time—but this requirement might handicap him in the first few years of his occupation, and under a profit-sharing scheme the Government will be able to take a longer time to recover its outlay.

In a recent article (*Nineteenth Century*, March 1920), Lord Ernle sums up the advantages of métayage as follows:—"It is a method of payment by results. It more readily adapts itself to falling prices or adverse seasons than fixed money rents. Its division of the produce which the earth annually yields in any given year is sound and reasonable. It establishes a close identity of interest between owner and occupier, who share alike in good and bad fortune. It compels the owner to interest himself in his land, and to qualify himself as the brains of the enterprise. By the intimacy of the association between the two partners it makes for social peace. In the main the attacks which have been justly made on the system are directed against abuses which, though traditional, are separable from its principle, and in its improved form it has justified the enthusiastic support of its champions."

We have the honour to be,

Your obedient Servants,

H. M. CONACHER.

W. R. SCOTT.

APPENDIX No. 1.

LAW OF 5TH NOVEMBER 1894—regarding the creation of Agricultural Credit Societies, as amended by the Laws of 20th July 1901, 14th January 1908, and 18th February and 19th March 1910.

ARTICLE 1.—Societies of agricultural credit may be formed either by the whole or part of the members of one or more professional agricultural syndicates, either by the whole or part of the members of one or more societies of mutual agricultural insurance administered under the law of 4th July 1900; their exclusive object is to facilitate and even to guarantee operations in connection with agricultural pro-

duction carried out by these syndicates and these insurance societies, or by members of these syndicates or of these insurance societies, as well as by the agricultural co-operative societies constituted in terms of the law of 29th December 1906.

Societies of agricultural credit may also consent to long term loans to individuals, with a view to facilitating the acquisition, improvement, transformation and reconstitution of small holdings.

These societies may receive deposits of funds into current account with or without interest, and undertake, in regard to operations in connection with agriculture, to recover outstanding debts and to make payments for the syndicates or for the members of these syndicates. They may, in particular, arrange for loans necessary to constitute or augment their circulating capital.

The capital of the society may not be formed by the creation of ordinary joint-stock, but must be subscribed by members of the society. These subscriptions will form shares which may be unequal in value; they will be personal and will only be transferable by way of assignment to members of the syndicates and with the consent of the society.

The society can only be constituted after payment of a quarter of the subscribed capital.

In the case of a society being constituted as a society with variable capital, such capital may not be reduced by the withdrawal of shares of retiring members below the total of the authorised capital.

ARTICLE 2.—The rules of the society will determine the central office and method of administration of the credit society, the conditions necessary for the modification of these rules and for the dissolution of the society, the composition of the capital, and the proportion in which each of the members will contribute to it.

They will determine the maximum amount of the sums to be received into current account.

They will regulate the extent and conditions of the liability of each member in regard to the undertakings of the society.

The members will only be freed from their liabilities after settlement of the contracts undertaken by the society previous to their retirement.

ARTICLE 3.—The rules will determine the charges which will be made for the benefit of the society on the operations undertaken by it.

The sums resulting from these charges, after payment of general expenses and interest on loans and on the capital of the society, will first be set aside, to the amount of at least three-quarters, for the formation of a reserve fund until it amounts to at least half the capital.

The surplus may be divided, at the close of the working year, between the syndicates and between members of the syndicates in proportion to the charges made on their operations. It cannot in any case be divided as a dividend between members of the society.

On the dissolution of the society, this reserve fund and the remainder of the assets will be divided amongst the members, in proportion to their holdings, unless the rules provide for applying it to a work of agricultural interest.

ARTICLE 4.—Credit societies authorised by the present law are commercial societies, whose books must be kept in accordance with the rules prescribed by the Commercial Code.

They are exempt from duty on patents as well as from the tax on personal property.

ARTICLE 5.—In lieu of the conditions of registration prescribed for ordinary commercial societies, the following provisions shall take effect:—

Before any operation, the rules, with the complete list of the administrators or directors and of the members, indicating their names, professions, addresses, and the number of shares held by each, will be deposited, in duplicate, at the office of the justice of the peace of the "canton" in which the society has its central office. Acknowledgment of receipt will be given.

One of the copies of the rules and of the list of members of the society will be deposited by the justice of the peace at the tribunal of commerce of the "arrondissement."

Every year, in the first fortnight of February, the director or an administrator of the society will deposit copies in duplicate at the office of the justice of the

peace of the "canton," with the list of members belonging to the society at that date, a tabulated statement of receipts and expenditure, as well as a statement of the operations carried out in the year preceding. One copy will be deposited by the justice of the peace at the office of the tribunal of commerce.

The documents deposited at the offices of the justice of the peace and the tribunal of commerce will be open for public inspection.

ARTICLE 6.—The members responsible for the administration of the society will be personally liable, in the case of violation of the rules or of the provisions of the present law, for any penalties resulting from this violation.

Moreover, in the case of a false declaration in regard to the rules or to the names and qualifications of the administrators, directors, or members, they may be prosecuted and punished by a fine of from 16 to 500 francs.

ARTICLE 7.—The present law is applicable to Algeria and the Colonies.

The present law, considered and passed by the Senate and Chamber of Deputies, will be carried out as a law of the State.

PARIS, 5th November 1894.

APPENDIX No. 2.

LAW OF 31ST MARCH 1899—(as amended by the Laws of 25th December 1900, 29th December 1906, and 19th March 1910), for the purpose of establishing Regional Banks of Mutual Agricultural Credit and promoting their work and that of societies and local banks of mutual credit.

ARTICLE 1.—The advance of forty million francs and the sums due to be paid annually to the Treasury by the Bank of France, in pursuance of the agreement of the 31st October 1896, approved by the law of 17th November 1897, are placed at the disposal of the Government to be allocated by way of advances without interest to the Regional Banks of Mutual Agricultural Credit which will be constituted according to the provisions of the law of 5th November 1894.

The Government may, in addition, draw upon the annual payments in order to place at the disposal of the said Regional Banks special advances free of interest to be made to agricultural co-operative societies, repayable within a period of twenty-five years.

These advances may not exceed a third of the payments made annually by the Bank of France to the Treasury, in pursuance of the agreement of 31st October 1896, approved by the law of 17th November 1897.

The Government may also draw upon the annual payments in order to place at the disposal of the said Regional Banks special advances free of interest with a view to facilitating the operations provided for in Article 1 of the law of 19th March 1910. These additional advances may not exceed double the capital of the Regional Banks, and will be repayable within a maximum period of twenty years.

ARTICLE 2.—The object of the Regional Banks is to facilitate operations in connection with agriculture carried out by members of local societies of mutual agricultural credit in the prescribed area and guaranteed by these societies, and by agricultural co-operative societies duly affiliated to a local Agricultural Credit Bank administered under the law of 5th November 1894. They guarantee repayment, at the expiration of the fixed period, of the special advances made to them for agricultural co-operative societies.

Regional Banks will receive from co-operative societies, on the advances made to the latter, interest which will be fixed by them and approved by the Government after consultation with the Commission provided for in Article 4 (Article 3 of the law of 29th December 1906).

With this object in view, they discount bills signed by members of the local societies and endorsed by these societies.

They may make to these societies advances necessary for the constitution of their circulating capital.

They are not authorised to undertake any other operations.

ARTICLE 3.—The total amount of the advances made to the Regional Banks may not exceed four times the capital paid up in cash. These advances may not be made for a longer period than five years. They may be renewed.

They will become immediately repayable in the case of breach of the rules, or of any modification of these rules tending to impair the security for repayment.

ARTICLE 4.—The distribution of the advances to Regional Banks of Agricultural Credit, in terms of the laws of 31st March 1899, and 29th December 1906, will be made by the Minister of Agriculture, as advised by a Special Commission, whose members, with the exception of the *ex-officio* members, are nominated by Order for four years, the said Commission being composed as follows:—

The Minister of Agriculture, President,

Four Senators,

Six Deputies,

A member of the Council of State,

A member of the "Cour des comptes,"

The Governor of the Bank of France,

The Director General of Public Audit,

The Director of the "Mouvement général des fonds,"

An Inspector General of Finance,

The Director General of "Eaux et Forêts,"

The Director of Agriculture,

The Director of the "Secrétariat, du personnel central et de la comptabilité,"

The Director of Hydraulics and Agricultural Improvements,

The Director of the Remount Department,

The Chief of the Service of Regional Banks of Mutual Agricultural Credit,

Six General Inspectors or Inspectors of the Ministry of Agriculture,

Three Members of the Superior Council of Agriculture,

Eight representatives chosen from amongst the members of the Banks of Mutual Agricultural Credit, Regional or Local, or of the Agricultural Co-operative societies.

In addition to the permanent members of the Commission, the general inspector, and inspectors of agriculture, the inspectors of agricultural improvements and the inspectors of the Banks of Mutual Agricultural Credit, whose duty it is to submit reports, will be summoned to support them before the Commission with a deliberative vote.

Article 4 of the law of 31st March 1899 is hereby repealed.

ARTICLE 5.—An Order, issued on the advice of the Commission, will determine the means of control and supervision to be exercised over the Regional Banks.

The Rules of these Banks must be submitted to the Ministry of Agriculture.

These rules will indicate the prescribed area of the societies, the nature and extent of their operations, and their method of administration.

They will determine the composition of the capital of the society, the proportion in which each member may contribute to it, as well as the conditions of withdrawal, if any; the number of shares, of which two-thirds at least will be preferentially reserved for the local societies; the interest to be allowed on the shares, which may not exceed 5 per cent. of the paid-up capital; the maximum amount of deposit, and the maximum number of bonds to be issued, which together may not exceed three-quarters of the total amount of the securities held; and the conditions and regulations applicable to the modification of the rules and to the dissolution of the society.

ARTICLE 6.—The Minister of Agriculture will submit each year to the President of the Republic a report of the operations carried out in execution of the present law, which will be published in the Official Journal.

The present law, considered and adopted by the Senate and Chamber of Deputies, will be carried out as a law of the State.

PARIS, 31st March 1899.

APPENDIX No. 3.

RULES OF THE REGIONAL BANK OF MUTUAL AGRICULTURAL CREDIT OF THE
DEPARTMENT OF THE VIENNE.*Heading No. 1.*

FOUNDATION, OBJECT, CONSTITUTION.

ARTICLE 1.—By the joint action of the Local Agricultural Co-operative Credit Societies, the Agricultural Syndicates, and Members of the Syndicates established in the prescribed area, who have adhered or will adhere to the present statutes, a Regional Bank of Mutual Agricultural Credit is hereby founded on the 4th November 1905, under the denomination of the Regional Bank of Mutual Agricultural Credit of the Department of the Vienne.

The laws of 5th November 1894, and 31st March 1899, govern this Society, which has capital without fixed limit.

The unique object of this Bank, from which all idea of speculation is excluded, is to facilitate credit operations relating to agriculture.

ARTICLE 2.—The prescribed area for the operations of this Bank will comprise the Department of the Vienne.

ARTICLE 3.—The central office of the Society is established at the Town Hall, Poitiers.

ARTICLE 4.—The Society will only be constituted upon payment of half the subscribed capital.

Heading No. 2.

CAPITAL OF THE SOCIETY, SHARES, PAYMENTS.

ARTICLE 6.—The authorised capital is fixed at the sum of 18,100 francs, divided into 724 shares of 25 francs each.

Each member of the Society must be holder of at least one share.

The capital of the Society may be increased by the creation of new shares to the extent of 200, on the decision of the Administrative Council, and above that number, on the decision of the General Assembly after consulting the Council, and these new shares may be provided not only by individual subscribers, but by the "Caisses locales" to be formed, for which two-thirds at least of the shares thus created will be preferentially reserved. The capital cannot be reduced below the authorised amount, nor below that upon which the allocation of State advances has been based.

ARTICLE 7.—A Local Agricultural Co-operative Credit Society, on becoming affiliated to the Regional Bank, must take a certain number of shares in the Bank, and the sum total of such shares must equal at least half of its subscribed capital.

ARTICLE 8.—The sum total of the shares is payable, one half at the time of subscribing, and the other half at such times and in such proportions as may be fixed by the Administrative Council.

Interest on the shares is fixed, for the first year at 3 per cent.; interest for the following years will be fixed by the General Assembly.

Legal interest at 5 per cent. will be charged by the Society on any capital not paid up.

Heading No. 3.

MEMBERS.

ARTICLE 11.—All the members are liable up to the amount of the shares subscribed by them. This liability once discharged, the members cannot on any account be held bound to make any other payment, and they do not incur any personal responsibility with regard to the liabilities of the Society, which are covered solely by the assets of the Society.

The new members must be admitted by the Administrative Council, which

is not required to give a reason for its decision. The unsuccessful candidate may refer his case to the General Assembly, whose decision is final.

Admission is considered as cancelled if payment of half the subscription has not been made during the week of the notification of admission.

ARTICLE 14.—In the case of resignation, death or exclusion, the member who leaves the Society has the right, on production of the shares of which he is holder, only to the payment of interest due and to the repayment of the sums paid by him, and he is not entitled to share in any increase in the assets of the Society.

If there is a deficit in the assets of the Society, the repayment of the sums paid by him will be subjected to a reduction proportional to the existing deficit ; and it will fall to the General Assembly, after balancing and passing the accounts at the end of the year, to indicate the amount of this reduction by fixing the decreased value of the share, without the possibility of dispute on the part of the person interested.

From this repayment, there will also be deducted any sums due by the member to the Society, either by way of damages or for any other reason.

ARTICLE 15.—

Moreover, during the whole existence of the Society, no member or person in his name may, under whatever pretext or under any circumstances, lay claim to any share of the reserve of the profits or assets of the Society, because the present laws determine that such allocation may only be made after a legal declaration of dissolution.

Heading No. 4.

OPERATIONS OF THE SOCIETY.

ARTICLE 16.—The operations of the Regional Bank, of which the object is to facilitate operations of agricultural credit carried out by members of "Caisses Locales" under the guarantee of these Societies, will consist in :—

- (1) discounting bills signed by the members of local Societies of mutual agricultural credit in the prescribed area, and endorsed by these Societies ;
- (2) making to these local Societies advances towards their circulating capital ;
Nevertheless, the local Societies will only be able to undertake operations with the Regional Bank if their rules have been approved by the latter, if they submit to its control, and if they set apart, in conformity with Article 7 above, a part of their authorised capital for the acquisition of shares in the Regional Bank ;
- (3) receiving deposits into current account ; issuing bonds of which the total value may not exceed three-quarters of the securities held by the Bank ;
- (4) rediscounting bills (in whole or in part) ;
- (5) investing funds for the moment not being utilised.

The operations of the Society will also consist in making long-term loans to individuals, for the purpose of facilitating the acquisition, improvement, transformation, and reconstitution of small holdings, in conformity with the provisions of the law of 19th March 1910, and the administrative orders following thereon.

In matters concerning the working of loans of this kind, the Administrative Council is authorised to draw up bye-laws containing all the clauses and conditions considered desirable by them.

The operations of the Society will also consist in :—

Receiving from the State special long-term advances for the purpose of re-mitting them to the Agricultural Co-operative Societies, and guaranteeing their repayment under the conditions provided by the law of 29th December 1906.

Receiving also from the State special long-term advances, and disposing of them in favour of the parties concerned, all in pursuance of the law of 9th April 1918, and in conformity with the limitations and conditions stipulated therein, the regulation of public administration and the ministerial instructions following thereon.

Making all other loans in favour of agriculture which may have been or might be decided on and authorised by the laws and instructions already issued or to be issued.

Heading No. 5.

ADMINISTRATION OF THE SOCIETY.

ARTICLE 17.—The Regional Bank is administered by a Council, composed of fifteen persons, chosen from among the members of the Society, and nominated for six years by the General Assembly.

One-third of the Council will retire every two years, the retiring members being determined by ballot on the first two occasions, and thereafter by seniority.

Retiring administrators will always be eligible for re-election.

ARTICLE 19.—The Council will nominate from amongst its members every two years its Committee, composed of a Chairman, two Vice-Chairmen, a Secretary and a Vice-Secretary.

The powers of the different members of the Committee will be defined more precisely by a bye-law.

ARTICLE 20.—The Council will appoint one or more working administrators in order to superintend the working of the Society, especially the cashier's and accountant's departments, of which the management may be entrusted to an outside agent.

ARTICLE 21.—The duties of the administrators will be performed gratuitously. They will only be entitled to receive expenses incurred by them in the discharge of their duties on behalf of the Society.

ARTICLE 23.—The Council will meet normally every two months. Special meetings may be convened by the Chairman.

A third of the members will make a quorum. In the event of equal voting, the Chairman will have the casting vote.

Heading No. 6

POWERS OF THE ADMINISTRATIVE COUNCIL.

ARTICLE 24.—The Administrative Council will make and carry out all decisions affecting the business of the Society, except in matters assigned by law or the statutes to the General Assembly.

Its principal powers will be as follows :—

It will convene the General Assembly for ordinary and special meetings. It will approve the admission of members.

It will have to apply to the State for advances provided by the laws of 31st March 1899, and 25th December 1900, as well as those authorised by any other law.

It will have the duty of investing funds at the disposal of the Society in French "Rentes," Treasury Bills or other securities created or guaranteed by the State; in Bank of France stock; in bonds issued by the departments, the "communes," the "Credit foncier" of France, or the Railway Companies who have a minimum interest guaranteed by the State.

The funds at the disposal of the Society may be deposited either with the Savings Banks, the Bank of France, or with the Regional Banks of Mutual Agricultural Credit which have obtained advances from the State.

The Council will order the sale of securities as they require to be realised for the working of the Bank; it may deposit securities with the Bank of France or with any other Credit Institution against advances or other similar transactions.

It will decide, according to necessity, on the sale of bills to be realised for the working of the Bank, or on the calling in of loans secured on these bills.

It will regulate the service of deposits, and the issue of bonds, will fix the rate of discount and the rate of interest on loans, and will determine the maximum amount of advances to "Caisses Locales" and the maximum amount of their paper to be discounted.

The Council may collect all sums due to the Regional Bank.

Heading No. 7.

GENERAL ASSEMBLIES.

ARTICLE 29.—The General Assembly will be composed of all shareholders of three months' standing. As duly constituted, it will represent the whole body of shareholders ; its decisions will be binding on all, even on the absent.

It will meet every year in the month of February. It may also be called together for special reasons by the Administrative Council. Moreover, it must be summoned every time that the Administrative Council receives a written request bearing the signatures of a third of the members and indicating the business to be dealt with.

ARTICLE 32.—Each member who is holder of from one to five shares inclusive will have the right to one vote ; and from six to ten shares inclusive, to two votes ; however many shares above this number the member may hold, he will not be entitled to more than three votes.

Each member may be represented by another member duly authorised in writing. But a proxy may not represent more than ten votes, his own included.

ARTICLE 33.—The General Assembly will be disqualified from acting unless a fourth of the shareholders holding a fourth of the capital are present or represented.

If the Assembly does not fulfil these conditions, a new meeting must be called ; and the summons to the new meeting will contain an intimation that the proceedings of the new Assembly will be valid, whatever number of members are present, and whatever proportion of capital is represented.

An attendance sheet will be kept containing the names and addresses of the members.

ARTICLE 35.—The General Assembly will proceed every two years to nominate members of the Administrative Council in conformity with the provisions of Article 17 preceding.

It will appoint one or more commissioners, whose duty it will be to present a report on the business of the Society, which will be submitted to the succeeding General Assembly.

It will consider the report of the Administrative Council ; it will examine and, if satisfied, pass the accounts. It will decide without appeal on the exclusion or admission of members ; it will deliberate and give the final decision on all questions on the agenda, and on all those which the law and statutes assign to it, or which the Administrative Council thinks fit to submit to it.

It will fix the interest on the shares, which may not exceed 4 per cent.

It will also decide on the total payments to be made over to the reserve funds, as well as on the increase of the capital of the Society.

It will fix, in the case of Article 14 preceding, the total value of the share on which repayment to the member is based.

Heading No. 8.

INVENTORY PROFITS, RESERVE FUNDS.

ARTICLE 37.—After meeting general expenses, paying interest on bills, on deposits and on shares, the profits, to the amount of three-quarters, must first be set aside in order to form a reserve fund, until it has reached the sum of at least half the subscribed capital.

The surplus, by a decision of the General Assembly, may be paid partly into a special reserve fund for the purpose of repaying State advances, and the remainder divided amongst the "Caisses Locales" of Mutual Agricultural Credit in proportion to the charges made on their operations.

ARTICLE 38.—All sums accruing from interest on shares, bonds, deposits, or other sums belonging to other persons, which are not reclaimed in the five years during which they are exigible, will be placed to the credit of the Society.

APPENDIX No. 4.

REPORTS OF OPERATIONS OF "CAISSES RÉGIONALES."

We give extracts from annual reports of the operations of the "Caisse Régionale" of the Ile de France, the area of which covered the Departments of the Seine, Seine et Oise, Oise, Eure-et-Loir.

By December 1913, 38 "Caisses Locales" were affiliated to the Bank. Besides these, 54 individual members and 4 Agricultural "Syndicats" had shares in the Bank. The individual members included two Senators and two Senior Officials, who belonged presumably in order to give the Bank moral support. The share capital of the Bank was 213,700 francs, nearly ten times as much as the original capital in 1902.

The Bank had received from the State the following advances :—

664,500 francs for short term loans to individuals ;
250,000 francs for long term loans to individuals ;
114,400 francs for long term loans to Co-operative Societies.

Total	1,028,900 francs.
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The first of these sums represented five advances falling due at separate dates, the earliest of which was 24th September 1914.

The Laiterie Co-opérative of Clermont had repaid the loan of 20,000 francs made to it. Two other Societies, viz., the Working Men Horticulturists of Sceaux and the Société Co-opérative de garage de Villainnes (a Transport Society), were granted, with the approval of the Ministry of Agriculture, sums of 88,400 and 26,000 francs. Within the year the Bank had discounted 650 bills, renewed 623, made 9 and received 4 direct advances, for a total amount of 1,432,469 francs. Nine hundred and twenty-eight bills had been discharged, leaving 358 in the Bank.

The "Conseil" of the Bank emphasised the soundness of proceeding by short term renewable bills, as "the situation of the agriculturist changes rapidly and a bill cannot be called up until it is due." Two years was the longest period for short term loans, and this was granted as a rule only in the case of loans for stock. Nineteen short term loans had been made to "syndicats." Thirty-three long term loans had been made in 1911, 1912, 1913 to individuals, the average amount being 5500 francs. One-tenth had been repaid. In 1913 the net profits of the undertaking had been 19,105 francs, and after deducting 6576 francs as interest on share capital at 3½ per cent., 12,527 francs were left to be carried to reserve. At the beginning of 1914 a reserve of 61,872 francs had been built up.

Naturally the "Caisse" had to mark time during the War. In the Report for 1917, it was stated that the affiliated "caisses locales" were 41, the "syndicats" 5, and individual members 45. The share capital was 253,670 francs, showing an increase of 24,900 francs after slight decreases in 1915 and 1916. The advances from the State had gone up to 1,225,312 francs, including an advance of 35,000 francs for loans to "communes" in order to put under cultivation derelict land. The State had foregone in the meantime the repayment of advances which had become due. The "Caisse" had not received any large amount in deposits. An Agricultural Co-operative Society had, however, deposited with it 33,177 francs, representing its share capital. The number of bills discounted had fallen off during the War. The two Co-operative Societies which had received long term advances had not been able to make use of them owing to the War. Interest on share capital was paid at 4 per cent. The reserve at the beginning of 1918 was 30,557 francs.

As the capital of the "Caisse" was reaching the limit of 300,000 francs authorised at the outset of operations, the General Assembly authorised an extension to 400,000 francs. It was hoped in 1918 to reduce the rate of interest for discounting bills from 5 per cent. to 4 per cent. In 1918 the number of constituent societies and individuals was about the same as in 1917. The "Conseil" in their Report called attention to a request by the Minister for Agriculture that the "Caisse Régionale" of the Ile de France would act as such for a number of Departments, in which, owing to the War, the "Caisses Régionales" had lapsed. They also

recommended the creation of a "Caisse Locale" in Paris to operate in a fairly large area for the benefit of isolated agriculturists. It was also to be expected that the law of 9th April 1918, providing advances for disabled soldiers and civilian victims of the War, would put fresh work on the "Caisses." It was mentioned that the "Caisse Locale" of Lassigny and one or two other places had been sorely tried by the War.

In 1918, the share capital had diminished slightly to 252,850 francs. The advances from the State also had gone back a little, *i.e.* to 1,192,900 francs. The number of bills discounted had also contracted somewhat. The rate of interest on such bills was 4 per cent. in 1918, being also the rate payable on share capital. For 1919, the reserve was 33,276 francs.

The "Caisse Régionale" of the Gironde is another bank which has done a considerable amount of business. Fifty-eight "Caisses Locales," including a mutual insurance society against fire, are affiliated to it. Some of these "Caisses Locales" hold a fair number of shares (which are 50 francs each) in the "Caisse Régionale," as, *e.g.*, Blaye with 444, Carbon Blanc with 2927, Girondine with 664, Lamothe-Landaron with 518, Pauillac with 632, Pandaurat with 709, Saint Emilien with 1062, Saint Sulpice et Cameyrac with 628. As some of these names imply, these "Caisses" do their work mainly among vine growers.

The annual number of bills discounted rose from 124 in 1903 to 7694 in 1914, the latter representing transactions amounting to nearly 10½ million francs. The business fell off rather more than one-third of this sum towards the end of the War. The capital rose from 55,800 francs in 1903 to 1,243,050 francs in 1918, having shown a slight increase even in the years of the War. The advances from the State rose from 173,340 francs to 2½ millions in 1918. The reserve similarly mounted from 2743 to 634,690 francs.

The General Meeting in 1918 authorised an additional 200,000 francs of capital. The financial situation was favourable enough to justify the meeting in voting 8000 francs towards helping the families of agriculturists who had suffered through the War.

REPORT OF THE "CAISSE RÉGIONALE" FOR LA HAUTE SAVOIE AT ANNEMASSE FOR 1918.

The share was 326,000 francs, being a slight increase on the amount for 1917.

The short term loans had fallen off from 351,628 francs in 1917 to 246,846 francs in 1918. "Cette réduction s'explique par la hausse constante des produits de la terre qui a ramené dans nos campagnes une aisance inconnue jusqu'ici."

Naturally long term loans to "Co-opérative Fruitières" were the leading feature of the operations of the "Caisse." They amounted to 2,886,380 francs. The annual instalments of repayment had been paid up punctually. Short loans to vine growers stood at 66,697 francs. The "Caisse" had "fonctionné normalement" during the War.

Sixty "Caisses Locales" were affiliated to the "Caisse." The mutual insurance societies against mortality of stock, which had suspended operations during the War, were about to get to work again.

REPORT OF THE "CAISSE RÉGIONALE" FOR THE DEPARTMENT OF LA VIENNE FOR 1918.

Thirty-one "Caisses Locales" are affiliated to the "Caisse." Short term advances to individuals were tending to diminish—presumably for the same reason as in other districts. A sum of 62,558 francs was outstanding in the name of long term advances to individuals, who were paying their instalments satisfactorily. Loans to the amount of 1,470,006 francs had been made to Co-operative Societies for long term loans. The instalments were being paid up punctually in most cases.

The interest on share capital was fixed at 4 per cent., each share being worth 25 francs. The profits of the undertaking for 1918 were 26,852 francs—after paying interest on share capital, a net profit of 21,492 francs remained. It was decided to appropriate 4298 as "ristourne" or "dividend" for the "Caisses Locales." The balance was carried to the reserve.

APPENDIX No. 5.

CO-OPERATIVE CHEESE SCHOOLS.

OBJECTS.

1. Demonstration to farmers in a district of the advantages of manufacturing cheese on co-operative and up-to-date lines.
2. Instruction for students in factory cheese-making.
3. Instruction for farmers in the business methods adopted in running a cheese factory.
4. The financial advantages of cheese-making over butter-making.
5. To encourage the production of British-made cheese.

OUTLINE OF SCHEME.

For the period of tuition and demonstration the Board of Agriculture and Fisheries loan the following necessary plant, through the County Council, free of charge :—

- 1 250-gallon vat, racks, covers, and milk and whey strainers.
- 12 cheese moulds with followers.
- 1 curd mill for hand power.
- 2 curd knives.
- 1 milk weighing machine.
- 3 twin cheese presses.

The County Council also provide free of charge :—

A capable instructor or instructress to take charge of the school, as well as the following instructional appliances :—

- 1 Gerber tester with necessary pipettes and chemicals.
- 1 acidimeter with necessary pipettes and chemicals.
- Measuring glasses, thermometers, enamelled buckets for making starter and curd rake.

The local farmers concerned must form themselves into a committee for the purpose of controlling the business side of the school. This will necessitate the provision of suitable clerical assistance. This Local Committee must provide for the accommodation of the school :—

- A suitable building with good floor and efficient drainage for working dairy, and rooms for curing cheese.
- Hot and cold water supply.
- Cheese bandaging.
- Rennet, lard, salt and washing soda.
- Necessary cleansing utensils such as brooms, brushes, squeegee, dish-cloths, and polishes.
- 1 long knife for cutting up curd.
- 1 hot iron tester.
- The necessary stationery and books.
- Assistant cheese-maker and other help as required.
- Means for disposing of whey.
- Cans for collecting milk.

CAPITAL.

In order to pay suppliers' milk accounts regularly, it is usual for a certain number of all the suppliers to become jointly and severally guarantors at the local Bank, for an overdraft.

METHOD OF PAYMENT.

Payments are made in accordance with quality. The standard of quantity usually adopted is 3·5 per cent. of fat, and the standard price to be paid for milk

of standard quality is fixed by the Local Committee and should be at least 4d per gallon below the price which it is expected the cheese will realise per lb.

Given that the price of cheese is expected to be 1s. 4d. per lb., then the standard price for standard quality milk should be 1s. per gallon, or for greater convenience 10s. per 100 lb. of milk. For every .1 per cent. increase in the fat content above the standard quality the price is increased 2d. per 100 lb. until 4 per cent. of fat is reached, after which point the increase is only 1d. per 100 lb.

Similarly for every .1 per cent. decrease in the fat content of pure milk the price is decreased 2d. per 100 lb. until 3 per cent. of fat is reached, after which point the decrease is only 1d. per 100 lb.

In making up the accounts the following schedule—which may be altered to suit whatever prices are fixed upon by the committee—will prove useful.

Fat Content.	Price per 100 lbs.		Fat Content.	Price per 100 lbs.	
	s.	d.		s.	d.
3·5	10	0	3·5	10	0
3·6	10	2	3·4	9	10
3·7	10	4	3·3	9	8
3·8	10	6	3·2	9	6
3·9	10	8	3·1	9	4
4·0	10	10	3·0	9	2
4·1	10	11	2·9	9	1
4·2	11	0	2·8	9	0

No milk accepted at factory under 2·8 per cent. fats.

These payments may be made fortnightly or monthly to fit in with local conditions, and will constitute a first payment on account for the milk received.

At the end of the season, when all moneys for cheese have been received and all accounts paid, the remaining amount is distributed amongst the suppliers in proportion to the amount of butter-fat supplied or in proportion to the amount of money which they have already received on account for milk. This second payment may be called a bonus or deferred payment.

WHEY.

A charge should be made for whey returned to the farmers. Pigs may be kept co-operatively at the school.

COLLECTION.

Where there is any difficulty in getting the farmers to deliver their milk at the school, co-operative collection should be undertaken, either by mutual arrangement with each other, or by letting the collection out by contract.



**Representation of the People (Equal Franchise) Bill, 1928
(Estimated Electorate)**

**Return showing in respect of each Parliamentary
Constituency in England, Wales and Scot-
land, the estimated increase in the electorate
under the provisions of the Representation
of the People (Equal Franchise) Bill, 1928**

*Presented by the Secretary of State for the Home
Department to Parliament by Command of His Majesty*

June, 1928

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1928

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Cmd. 3119

RETURN showing, in respect of each Parliamentary Constituency in England, Wales and Scotland, the estimated increase in the electorate under the provisions of the Representation of the People (Equal Franchise) Bill, 1928.

Note.—The new electorate shown in Column 5 of the Table consists of women, except that for England and Wales it includes men (estimated to number 16,000 in all) who will be qualified in respect of their wives' occupation of business premises. Estimates for Northern Ireland are not available.

PARLIAMENTARY CONSTITUENCIES. (1)	Existing Electorate.			Estimated Electorate under the Bill.	
	Men. (2)	Women. (3)	Total. (4)	New. (5)	Total. (6)
ENGLAND AND WALES	11,094,031	8,491,941	19,585,972	—	—
Parliamentary Boroughs	5,643,965	4,422,430	10,066,395	2,458,000	12,524,395
Parliamentary Counties	5,398,380	4,060,485	9,458,865	2,211,400	11,670,265
Universities	51,686	9,026	60,712	Not available.	
ENGLAND (excluding Monmouthshire) ...	10,314,916	7,952,393	18,267,309	—	—
Parliamentary Boroughs	5,413,024	4,261,964	9,674,988	2,378,300	12,053,288
Parliamentary Counties	4,852,180	3,682,060	8,534,240	2,023,400	10,557,640
Universities	49,712	8,369	58,081	Not available.	
BEDFORDSHIRE.					
Parliamentary County of Bedford	61,111	48,900	110,011	25,000	135,011
BEDFORD DIVISION	19,842	16,713	36,555	8,500	45,055
LUTON DIVISION	23,136	18,479	41,615	9,300	50,915
MID DIVISION	18,133	13,708	31,841	7,200	39,041
BERKSHIRE.					
Parliamentary Borough—					
READING	27,225	20,866	48,091	12,700	60,791
Parliamentary County of Berks	58,868	46,103	104,971	26,200	131,171
ABINGDON DIVISION	17,028	12,488	29,516	7,000	36,516
NEWBURY DIVISION	19,420	15,527	34,947	8,200	43,147
WINDSOR DIVISION	22,420	18,088	40,508	11,000	51,508
BUCKINGHAMSHIRE.					
Parliamentary County of Bucks	75,289	58,520	133,809	29,900	163,709
AYLESBURY DIVISION	23,793	18,799	42,592	9,500	52,092
BUCKINGHAM DIVISION	21,318	16,766	38,084	7,600	45,684
WYCOMBE DIVISION	30,178	22,955	53,133	12,800	65,933
CAMBRIDGESHIRE.					
Parliamentary Borough—					
CAMBRIDGE	16,347	14,239	30,586	8,200	38,786
Parliamentary County of Cambridge (undivided)	22,516	16,108	38,624	8,100	46,724
CHESHIRE.					
Parliamentary Boroughs	100,455	79,669	180,124	47,400	227,524
BIRKENHEAD, EAST DIVISION	21,229	14,731	35,960	9,700	45,660
" WEST DIVISION	19,151	13,742	32,893	8,700	41,593
*STOCKPORT	36,837	30,392	67,229	16,400	83,629
WALLASEY	23,238	20,804	44,042	12,600	56,642
Parliamentary County of Chester	203,230	153,453	356,683	89,600	446,283
ALTRINCHAM DIVISION	28,094	22,866	50,960	12,700	63,660
CITY OF CHESTER DIVISION	16,864	12,581	29,445	8,400	37,845
CREWE DIVISION	23,209	16,743	39,952	7,800	47,752
EDDISBURY DIVISION	14,099	9,531	23,630	6,500	30,130
KNUTSFORD DIVISION	22,593	16,970	39,563	10,500	50,063
MACCLESFIELD DIVISION	22,256	18,861	41,117	10,300	51,417
NORTHWICH DIVISION	25,928	17,044	42,972	9,600	52,572
STALYBRIDGE AND HYDE DIVISION	24,923	19,832	44,755	11,400	56,155
WIRRAL DIVISION	25,264	19,025	44,289	12,400	56,689

* Constituency returning two members.

PARLIAMENTARY CONSTITUENCIES. (1)	Existing Electorate.			Estimated Electorate under the Bill.	
	Men. (2)	Women. (3)	Total. (4)	New. (5)	Total. (6)
CORNWALL.					
Parliamentary County of Cornwall	91,462	78,741	170,203	40,900	211,103
BODMIN DIVISION	18,788	14,785	33,573	7,000	40,573
CAMBORNE DIVISION	18,132	17,036	35,168	9,100	44,268
NORTHERN DIVISION	17,038	14,075	31,113	8,900	40,013
PENRYN AND FALMOUTH DIVISION	21,594	17,659	39,253	9,000	48,253
ST. IVES DIVISION	15,910	15,186	31,096	6,900	37,996
CUMBERLAND.					
Parliamentary Borough— CARLISLE	14,696	12,059	26,755	7,000	33,755
Parliamentary County of Cumberland	60,636	43,922	104,558	24,700	129,258
NORTHERN DIVISION	12,783	9,623	22,406	5,700	28,106
PENRITH AND COCKERMOUTH DIVISION	12,094	9,412	21,506	6,000	27,506
WHITEHAVEN DIVISION	16,231	11,660	27,891	6,300	34,191
WORKINGTON DIVISION	19,528	13,227	32,755	6,700	39,455
DERBYSHIRE.					
Parliamentary Borough— DERBY	38,350	29,377	67,727	14,300	82,027
Parliamentary County of Derby	179,487	122,577	302,064	68,700	370,764
BELPER DIVISION	21,170	14,671	35,841	8,300	44,141
CHESTERFIELD DIVISION	23,242	15,292	38,534	8,800	47,334
CLAY CROSS DIVISION	22,073	13,058	35,131	7,400	42,531
HIGH PEAK DIVISION	20,525	16,074	36,599	10,600	47,199
ILKESTON DIVISION	19,947	13,740	33,687	7,000	40,687
NORTH EASTERN DIVISION	25,163	15,383	40,546	8,200	48,746
SOUTHERN DIVISION	28,832	20,322	49,154	9,700	58,854
WESTERN DIVISION	18,535	14,037	32,572	8,700	41,272
DEVONSHIRE.					
Parliamentary Boroughs	77,611	64,801	142,412	27,800	170,212
EXETER	16,748	15,215	31,963	7,200	39,163
PLYMOUTH, DEVONPORT DIVISION	18,875	14,841	33,716	5,300	39,016
" DRAKE DIVISION	20,601	17,283	37,884	7,100	44,984
" SUTTON DIVISION	21,387	17,462	38,849	8,200	47,049
Parliamentary County of Devon	131,394	111,694	243,088	63,900	306,988
BARNSTAPLE DIVISION	18,829	16,436	35,265	10,600	45,865
HONITON DIVISION	17,201	15,313	32,514	9,500	42,014
SOUTH MOLTON DIVISION	16,996	13,001	29,997	6,200	36,197
TAVISTOCK DIVISION	17,500	13,255	30,755	6,400	37,155
TIVERTON DIVISION	15,852	12,681	28,533	7,000	35,533
TORQUAY DIVISION	21,089	20,847	41,936	12,900	54,836
TOTNES DIVISION	23,927	20,161	44,088	11,300	55,388
DORSETSHIRE.					
Parliamentary County of Dorset	66,600	53,789	120,389	29,900	150,289
EASTERN DIVISION	21,254	17,748	39,002	10,000	49,002
NORTHERN DIVISION	14,525	11,086	25,611	6,300	31,911
SOUTHERN DIVISION	16,918	13,653	30,571	7,600	38,171
WESTERN DIVISION	13,903	11,302	25,205	6,000	31,205

* Constituency returning two members.

PARLIAMENTARY CONSTITUENCIES. (1)	Existing Electorate.			Estimated Electorate under the Bill.	
	Men. (2)	Women. (3)	Total. (4)	New. (5)	Total. (6)
DURHAM.					
Parliamentary Boroughs	177,710	127,796	305,506	65,900	371,406
DARLINGTON	19,677	14,845	34,522	7,600	42,122
GATESHEAD	33,141	24,234	57,375	11,400	68,775
HARTLEPOOLS, THE	25,622	17,658	43,280	8,600	51,880
SOUTH SHIELDS	31,074	21,282	52,356	12,000	64,356
STOCKTON ON TEES	24,181	16,711	40,892	8,400	49,292
*SUNDERLAND	44,015	33,066	77,081	17,900	94,981
Parliamentary County of Durham	244,780	160,299	405,079	80,000	485,079
BARNARD CASTLE DIVISION	12,935	8,750	21,685	5,200	26,885
BISHOP AUCKLAND DIVISION	20,908	14,049	34,957	7,500	42,457
BLAYDON DIVISION	22,664	14,695	37,359	6,900	44,259
CHESTER LE STREET DIVISION	25,077	16,019	41,096	8,400	49,496
CONSETT DIVISION	25,741	15,702	41,443	8,300	49,743
DURHAM DIVISION	19,647	13,182	32,829	7,200	40,029
HOUGHTON LE SPRING DIVISION	25,136	17,434	42,620	8,900	50,920
JARROW DIVISION	23,619	15,925	39,544	7,300	46,844
SEAHAM DIVISION	29,446	17,803	47,249	9,000	56,249
SEDFIELD DIVISION	18,841	12,498	31,339	5,900	37,239
SPENNYMOOR DIVISION	20,766	14,192	34,958	6,000	40,958
ELY, ISLE OF					
Parliamentary County of Isle of Ely (undivided)	23,238	16,640	39,878	8,200	48,078
ESSEX.					
Parliamentary Boroughs	257,026	204,150	461,176	102,400	563,576
EAST HAM, NORTH DIVISION	20,797	16,141	36,938	8,700	45,638
" SOUTH DIVISION	21,707	15,969	37,676	6,500	44,176
ILFORD	30,614	29,873	60,487	8,100	68,587
LEYTON, EAST DIVISION	16,267	13,120	29,387	6,600	35,987
" WEST DIVISION	20,549	16,213	36,762	8,000	44,762
SOUTHEND ON SEA	28,245	24,794	53,039	18,500	71,539
WALTHAMSTOW, EAST DIVISION	16,929	13,426	30,355	6,300	36,655
" WEST DIVISION	19,132	14,592	33,724	6,500	40,224
WEST HAM, PLAISTOW DIVISION	22,210	15,921	38,131	8,800	46,931
" SILVERTOWN DIVISION	21,505	14,737	36,242	7,400	43,642
" STRATFORD DIVISION	20,132	14,706	34,838	8,100	42,938
" UPTON DIVISION	18,939	14,658	33,597	8,900	42,497
Parliamentary County of Essex	192,218	147,800	340,018	73,000	413,018
CHELMSFORD DIVISION	23,097	17,872	40,969	9,700	50,669
COLCHESTER DIVISION	18,128	14,800	32,928	7,200	40,128
EPPING DIVISION	26,292	21,784	48,076	12,500	60,576
HARWICH DIVISION	17,787	14,234	32,021	8,800	40,821
MALDON DIVISION	18,515	13,900	32,415	6,300	38,715
ROMFORD DIVISION	35,807	26,586	62,393	12,500	74,893
SAFFRON WALDEN DIVISION	18,852	14,069	32,921	7,200	40,121
SOUTH EASTERN DIVISION	33,740	24,555	58,295	8,800	67,095
GLOUCESTERSHIRE.					
Parliamentary Boroughs	137,795	115,746	253,541	64,000	317,541
BRISTOL, CENTRAL DIVISION	21,600	17,832	39,432	8,900	48,332
" EAST DIVISION	21,088	16,181	37,269	8,200	45,469
" NORTH DIVISION	31,304	17,223	48,527	9,600	58,127
" SOUTH DIVISION	23,270	18,025	41,295	9,100	50,395
" WEST DIVISION	22,515	21,385	43,900	13,400	57,300

* Constituency returning two members.

PARLIAMENTARY CONSTITUENCIES. (1)	Existing Electorate.			Estimated Electorate under the Bill.	
	Men. (2)	Women. (3)	Total. (4)	New. (5)	Total. (6)
BUCKINGHAMSHIRE—continued.					
Parliamentary Boroughs—continued.					
CHELTENHAM	13,035	13,230	26,265	8,700	34,965
GLOUCESTER	14,983	11,870	26,853	6,100	32,953
Parliamentary County of Gloucester ...	82,797	61,929	144,726	34,500	179,226
CIRENCESTER AND TEWKESBURY DIVISION	21,127	16,344	37,471	8,500	45,971
FOREST OF DEAN DIVISION	18,135	12,371	30,506	6,400	36,906
STROUD DIVISION	21,269	16,920	38,189	11,000	49,189
THORBURY DIVISION	22,266	16,294	38,560	8,600	47,160
HEREFORDSHIRE.					
Parliamentary County of Hereford.					
HEREFORD DIVISION	16,113	13,146	29,259	6,600	35,859
LEOMINSTER DIVISION	15,166	11,778	26,944	6,000	32,944
HERTFORDSHIRE.					
Parliamentary County of Hertford					
HEMEL HEMPSTEAD DIVISION	16,371	13,709	30,080	7,400	37,480
HERTFORD DIVISION	20,383	15,577	35,960	8,400	44,360
HITCHIN DIVISION	19,731	15,865	35,596	7,600	43,196
ST. ALBANS DIVISION	23,731	19,241	42,972	12,500	55,472
WATFORD DIVISION	23,095	19,059	42,154	10,800	52,954
HUNTINGDONSHIRE.					
Parliamentary County of Huntingdon (undivided)					
	17,258	12,716	29,974	6,000	35,974
KENT.					
Parliamentary Boroughs					
BROMLEY	28,089	24,575	52,664	15,300	67,964
HYTHE	11,954	10,940	22,894	6,500	29,394
ROCHESTER, CHATHAM DIVISION	18,693	14,161	32,854	6,600	39,454
„ GILLINGHAM DIVISION	18,353	13,594	31,947	4,700	36,647
Parliamentary County of Kent.	239,743	195,275	435,018	100,500	535,518
ASHFORD DIVISION	20,792	15,733	36,525	7,200	43,725
CANTERBURY DIVISION	20,887	18,342	39,229	9,800	49,029
CHISLEHURST DIVISION	18,504	14,860	33,364	8,500	41,864
DARTFORD DIVISION	30,323	22,448	52,771	10,700	63,471
DOVER DIVISION	21,760	18,073	39,833	8,800	48,633
FAVERSHAM DIVISION	24,834	18,288	43,122	7,100	50,222
GRAVESEND DIVISION	20,309	15,203	35,512	6,200	41,712
ISLE OF THANET DIVISION	22,088	21,030	43,118	16,200	59,318
MAIDSTONE DIVISION	20,033	15,942	35,975	8,000	43,975
SEVENOAKS DIVISION	19,426	15,004	34,430	7,800	42,230
TONBRIDGE DIVISION	20,787	20,352	41,139	10,200	51,339
LANCASHIRE.					
Parliamentary Boroughs					
ACCINGTON	24,310	19,384	43,694	10,700	54,394
ASHTON UNDER LYNE	14,419	11,934	26,353	6,500	32,853
BARROW IN FURNESS	19,675	14,396	34,071	4,900	38,971
BLACKBURN	37,522	29,893	67,415	19,000	86,415
BLACKPOOL	31,331	30,111	61,442	24,000	85,442

* Constituency returning two members.

PARLIAMENTARY CONSTITUENCIES. (1)	Existing Electorate.			Estimated Electorate under the Bill.	
	Men. (2)	Women. (3)	Total. (4)	New. (5)	Total. (6)
LANCASHIRE—continued.					
Parliamentary Boroughs—continued.					
*BOLTON	51,104	38,610	89,714	26,500	116,214
BOOTLE	20,867	15,046	35,913	8,800	44,713
BURNLEY	29,795	22,377	52,172	14,400	66,572
BURY	18,793	15,088	33,881	8,400	42,281
ECCLES	22,071	18,282	40,353	8,200	48,553
LEIGH	24,161	15,330	39,491	10,900	50,391
LIVERPOOL, EAST TOXTETH DIVISION	20,030	16,355	36,385	11,000	47,385
" EDGE HILL DIVISION	19,834	14,640	34,474	8,300	42,774
" EVERTON DIVISION	16,630	12,352	28,982	7,600	36,582
" EXCHANGE DIVISION	23,683	17,730	41,413	9,600	51,013
" FAIRFIELD DIVISION	18,562	14,562	33,124	8,200	41,324
" KIRKDALE DIVISION	19,143	13,661	32,804	7,900	40,704
" SCOTLAND DIVISION	19,292	13,936	33,228	7,400	40,628
" WALTON DIVISION	20,325	15,441	35,766	8,600	44,366
" WAVERTREE DIVISION	22,699	17,680	40,379	9,000	49,379
" WEST DERBY DIVISION	23,546	18,298	41,844	9,700	51,544
" WEST TOXTETH DIVISION	22,035	16,526	38,561	8,500	47,061
MANCHESTER, ARDWICK DIVISION	21,231	16,748	37,979	9,500	47,479
" BLACKLEY DIVISION	15,256	12,883	28,139	6,000	34,139
" CLAYTON DIVISION	21,366	16,687	38,053	8,400	46,453
" EXCHANGE DIVISION	22,719	16,495	39,214	8,700	47,914
" GORTON DIVISION	20,632	15,802	36,434	7,700	44,134
" HULME DIVISION	21,561	17,636	39,197	9,000	48,197
" MOSS SIDE DIVISION	19,318	15,196	34,514	10,400	44,914
" PLATTING DIVISION	22,420	18,300	40,720	9,300	50,020
" RUSHOLME DIVISION	18,040	15,851	33,891	8,100	41,991
" WITHINGTON DIVISION	20,724	18,212	38,936	11,000	49,936
NELSON AND COLNE	25,299	20,342	45,641	10,200	55,841
*OLDHAM	41,614	30,605	72,219	20,400	92,619
*PRESTON	34,546	29,671	64,217	16,500	80,717
ROCHDALE	26,580	21,849	48,429	11,200	59,629
ROSSENDALE	20,653	16,232	36,885	8,800	45,685
ST. HELENS	30,427	18,523	48,950	11,300	60,250
SALFORD, NORTH DIVISION	21,559	16,397	37,956	10,900	48,856
" SOUTH DIVISION	22,575	16,122	38,697	9,100	47,797
" WEST DIVISION	19,913	15,932	35,845	8,300	44,145
SOUTHPORT	19,901	18,339	38,240	15,600	53,840
WARRINGTON	22,686	14,086	36,772	9,400	46,172
WIGAN	25,207	16,170	41,377	11,700	53,077
Parliamentary County of Lancaster	377,015	287,335	664,350	159,900	824,250
CHORLEY DIVISION	21,938	16,737	38,675	9,900	48,575
CLITHEROE DIVISION	19,242	15,872	35,114	7,800	42,914
DARWEN DIVISION	18,123	15,436	33,559	8,000	41,559
FARNWORTH DIVISION... ..	21,110	16,468	37,578	9,000	46,578
FYLDE DIVISION	26,900	19,381	46,281	12,700	58,981
HEYWOOD AND RADCLIFFE DIVISION	23,667	19,655	43,322	9,800	53,122
INCE DIVISION	20,442	13,559	34,001	7,400	41,401
LANCASTER DIVISION	21,868	18,837	40,705	12,000	52,705
LONSDALE DIVISION	15,601	12,515	28,116	6,400	34,516

* Constituency returning two members.

PARLIAMENTARY CONSTITUENCIES. (1)	Existing Electorate.			Estimated Electorate under the Bill.	
	Men. (2)	Women. (3)	Total. (4)	New. (5)	Total. (6)
ANCASHIRE—continued.					
Parliamentary County of Lancaster—continued.					
MIDDLETON AND PRESTWICH DIVISION ...	22,640	17,204	39,844	11,000	50,844
MOSSLEY DIVISION	23,973	18,541	42,514	10,100	52,614
NEWTON DIVISION	17,076	11,208	28,284	5,700	33,984
ORMSKIRK DIVISION	19,632	13,590	33,222	8,000	41,222
ROYTON DIVISION	20,739	16,491	37,230	8,600	45,830
STRETFORD DIVISION	25,591	19,242	44,833	10,300	55,133
WATERLOO DIVISION	17,369	14,398	31,767	8,400	40,167
WESTHOUGHTON DIVISION	19,798	13,976	33,774	7,300	41,074
WIDNES DIVISION	21,306	14,225	35,531	7,500	43,031
DECESTERSHIRE.					
Parliamentary Borough					
LEICESTER, EAST DIVISION	68,803	55,447	124,250	32,400	156,650
" SOUTH DIVISION	23,699	18,399	42,098	10,900	52,998
" WEST DIVISION	22,142	18,571	40,713	11,200	51,913
" WEST DIVISION	22,962	18,477	41,439	10,300	51,739
Parliamentary County of Leicester					
BOSWORTH DIVISION	82,177	60,947	143,124	31,600	174,724
HARBOROUGH DIVISION	22,467	15,770	38,237	8,100	46,337
LOUGHBOROUGH DIVISION	18,691	14,689	33,380	7,500	40,880
MELTON DIVISION	20,191	14,367	34,558	7,300	41,858
MELTON DIVISION	20,828	16,121	36,949	8,700	45,649
INCOLNSHIRE—THE PARTS OF HOLLAND.					
Parliamentary County of Holland with Boston (undivided)					
	25,993	18,295	44,288	10,000	54,288
INCOLNSHIRE—THE PARTS OF KESTEVEN AND RUTLANDSHIRE.					
Parliamentary County of Parts of Kesteven, and Rutland					
GRANTHAM DIVISION	38,200	28,495	66,695	14,000	80,695
RUTLAND AND STAMFORD DIVISION	22,083	16,242	38,325	8,100	46,425
RUTLAND AND STAMFORD DIVISION	16,117	12,253	28,370	5,900	34,270
INCOLNSHIRE—THE PARTS OF LINDSEY.					
Parliamentary Boroughs					
GRIMSBY	49,500	38,204	87,704	16,000	103,704
LINCOLN	31,336	24,365	55,701	9,500	65,201
LINCOLN	18,164	13,839	32,003	6,500	38,503
Parliamentary County of Parts of Lindsey... ..					
BRIGG DIVISION	68,903	49,829	118,732	26,300	145,032
GAINSBOROUGH DIVISION	20,277	13,859	34,136	6,500	40,636
HORNCastle DIVISION	16,429	11,594	28,023	5,300	33,323
LOUTH DIVISION... ..	14,785	11,180	25,965	7,700	33,665
LOUTH DIVISION... ..	17,412	13,196	30,608	6,800	37,408
ONDON.					
Parliamentary Boroughs					
CITY OF LONDON... ..	1,237,085	1,012,526	2,249,611	584,700	2,834,311
BATTERSEA, NORTH DIVISION... ..	24,913	16,997	41,910	2,200	44,110
" SOUTH DIVISION	23,896	17,483	41,379	9,300	50,679
BERMONDSEY, ROTHERHITHE DIVISION	25,231	19,615	44,846	11,900	56,746
" WEST BERMONDSEY DIVISION	16,959	12,866	29,825	5,300	35,125
" WEST BERMONDSEY DIVISION	15,192	11,809	27,001	5,100	32,101
BETHNAL GREEN, NORTH EAST DIVISION	15,786	12,030	27,816	5,700	33,516
" SOUTH WEST DIVISION	12,716	9,087	21,803	5,700	27,503

* Constituency returning two members.

PARLIAMENTARY CONSTITUENCIES. (1)	Existing Electorate.			Estimated Electorate under the Bill.	
	Men. (2)	Women. (3)	Total. (4)	New. (5)	Total. (6)
LONDON—continued.					
Parliamentary Boroughs—continued.					
CAMBERWELL, DULWICH DIVISION	17,964	16,311	34,275	7,900	42,175
" NORTH DIVISION	16,747	12,906	29,653	5,500	35,153
" NORTH WEST DIVISION	17,838	14,943	32,781	7,600	40,381
" PECKHAM DIVISION	21,389	17,636	39,025	7,100	46,125
CHELSEA	15,380	14,620	30,000	11,800	41,800
DEPTFORD	31,084	25,439	56,523	11,100	67,623
FINSBURY	21,633	17,787	39,420	7,200	46,620
FULHAM, EAST DIVISION	22,086	18,111	40,197	10,600	50,797
" WEST DIVISION	22,493	18,460	40,953	9,400	50,353
GREENWICH	27,632	21,091	48,723	11,300	60,023
HACKNEY, CENTRAL DIVISION	20,265	16,284	36,549	10,900	47,449
" NORTH DIVISION	18,579	15,166	33,745	10,600	44,345
" SOUTH DIVISION	19,448	15,097	34,545	8,900	43,445
HAMMERSMITH, NORTH DIVISION	18,535	15,270	33,805	7,100	40,905
" SOUTH DIVISION	18,429	15,009	33,438	9,400	42,838
HAMPSTEAD	21,247	19,842	41,089	20,300	61,389
HOLBORN	15,033	12,324	27,357	5,200	32,557
ISLINGTON, EAST DIVISION	24,913	21,093	46,006	12,300	58,306
" NORTH DIVISION	26,443	22,158	48,601	13,700	62,301
" SOUTH DIVISION	19,824	16,074	35,898	7,300	43,198
" WEST DIVISION	18,677	14,771	33,448	6,400	39,848
KENSINGTON, NORTH DIVISION	23,965	20,711	44,676	13,900	58,576
" SOUTH DIVISION	19,031	21,223	40,254	26,400	66,654
LAMBETH, BRIXTON DIVISION	21,615	17,987	39,602	10,000	49,602
" KENNINGTON DIVISION	20,179	16,326	36,505	8,100	44,605
" NORTH DIVISION	17,706	13,540	31,246	7,900	38,546
" NORWOOD DIVISION	24,017	21,143	45,160	11,100	56,260
LEWISHAM, EAST DIVISION	30,139	25,446	55,585	14,300	69,885
" WEST DIVISION	24,887	21,633	46,520	12,000	58,520
PADDINGTON, NORTH DIVISION	19,701	18,029	37,730	9,000	46,730
" SOUTH DIVISION	17,425	15,142	32,567	17,700	50,267
POPLAR, BOW AND BROMLEY DIVISION	20,596	15,530	36,126	8,700	44,826
" SOUTH POPLAR DIVISION	22,530	16,804	39,334	5,400	44,734
ST. MARYLEBONE	26,995	26,112	53,107	22,400	75,507
ST. PANCRAS, NORTH DIVISION	19,698	17,545	37,243	7,700	44,943
" SOUTH EAST DIVISION	17,865	14,274	32,139	8,600	40,739
" SOUTH WEST DIVISION	17,170	13,363	30,533	9,500	40,033
SHOREDITCH	30,060	22,761	52,821	9,800	62,621
SOUTHWARK, CENTRAL DIVISION	18,740	14,010	32,750	6,600	39,350
" NORTH DIVISION	14,966	11,515	26,481	5,500	31,981
" SOUTH EAST DIVISION	17,390	13,837	31,227	6,300	37,527
STEPNEY, LIMEHOUSE DIVISION	17,524	13,347	30,871	6,600	37,471
" MILE END DIVISION	14,935	10,192	25,127	9,000	34,127
" WHITECHAPEL & ST. GEORGE'S DIV.	16,115	10,510	26,625	9,200	35,825
STOKE NEWINGTON	13,319	11,156	24,475	7,800	32,275
WANDSWORTH, BALHAM AND Tooting DIV.	24,054	20,449	44,503	10,300	54,803
" CENTRAL DIVISION	17,240	14,043	31,283	6,600	37,883
" CLAPHAM DIVISION	19,888	17,319	37,207	8,900	46,107
" PUTNEY DIVISION	19,968	17,351	37,319	10,100	47,419
" STREATHAM DIVISION	18,170	16,935	35,105	9,800	44,905
WESTMINSTER, ABBEY DIVISION	21,182	16,609	37,791	8,400	46,191
" ST. GEORGE'S DIVISION	17,932	15,489	33,421	16,900	50,321
WOOLWICH, EAST DIVISION	20,127	15,211	35,338	6,600	41,938
" WEST DIVISION	21,624	16,705	38,329	7,400	45,729

PARLIAMENTARY CONSTITUENCIES. (1)	Existing Electorate.			Estimated Electorate under the Bill.	
	Men. (2)	Women. (3)	Total. (4)	New. (5)	Total. (6)
MIDDLESEX.					
Parliamentary Boroughs	152,594	127,219	279,813	68,600	348,413
EALING	18,916	17,342	36,258	11,000	47,258
EDMONTON	19,270	14,593	33,863	7,100	40,963
HORNSEY	24,874	23,242	48,116	13,200	61,316
TOTTENHAM, NORTH DIVISION	22,496	17,959	40,455	8,100	48,555
" SOUTH DIVISION	20,674	16,179	36,853	8,700	45,553
WILLESDEN, EAST DIVISION	23,028	19,844	42,872	11,400	54,272
" WEST DIVISION... ..	23,336	18,060	41,396	9,100	50,496
Parliamentary County of Middlesex	226,678	187,215	413,893	100,300	514,193
ACTON DIVISION	18,477	15,557	34,034	7,800	41,834
BRENTFORD AND CHRISWICK DIVISION	16,320	13,260	29,580	7,600	37,180
ENFIELD DIVISION	18,655	14,765	33,420	7,500	40,920
FINCHLEY DIVISION	19,402	17,271	36,673	10,700	47,373
HARROW DIVISION	26,804	22,033	48,837	10,500	59,337
HENDON DIVISION	26,840	23,077	49,917	13,200	63,117
SPELTHORNE DIVISION... ..	23,261	18,993	42,254	9,700	51,954
TWICKENHAM DIVISION	24,055	19,558	43,613	10,100	53,713
UXBRIDGE DIVISION	23,752	17,940	41,692	10,500	52,192
WOOD GREEN DIVISION	29,112	24,761	53,873	12,700	66,573
NONMOUTHSHIRE is included with WALES.					
NORFOLK.					
Parliamentary Boroughs	50,449	42,503	92,952	22,700	115,652
GREAT YARMOUTH	15,487	13,781	29,268	7,000	36,268
*NORWICH	34,962	28,722	63,684	15,700	79,384
Parliamentary County of Norfolk	98,125	73,175	171,300	37,700	209,000
EASTERN DIVISION	20,087	14,906	34,993	8,100	43,093
KING'S LYNN DIVISION	21,085	15,904	36,989	8,400	45,389
NORTHERN DIVISION	18,301	13,952	32,253	8,200	40,453
SOUTHERN DIVISION	19,506	14,388	33,894	6,700	40,594
SOUTH WESTERN DIVISION	19,136	14,025	33,161	6,300	39,461
NORTHAMPTONSHIRE WITH THE SOKE OF PETERBOROUGH.					
Parliamentary Borough— NORTHAMPTON	26,787	21,261	48,048	11,300	59,348
Parliamentary County of Northampton, with the Soke of Peterborough	81,677	61,769	143,446	29,700	173,146
DAVENTRY DIVISION	18,099	13,965	32,064	6,400	38,464
KETTERING DIVISION	22,095	16,480	38,575	8,500	47,075
PETERBOROUGH DIVISION	21,443	16,407	37,850	7,700	45,550
WELLINGBOROUGH DIVISION	20,040	14,917	34,957	7,100	42,057
NORTHUMBERLAND.					
Parliamentary Boroughs	151,957	106,221	258,178	54,900	313,078
MORPETH	28,288	17,963	46,251	9,500	55,751
NEWCASTLE UPON TYNE, CENTRAL DIVISION	20,506	14,485	34,991	6,600	41,591
" EAST DIVISION	20,988	14,564	35,552	7,100	42,652
" NORTH DIVISION... ..	18,900	15,333	34,233	7,900	42,133
" WEST DIVISION	20,759	15,387	36,146	8,000	44,146
TYNEMOUTH	18,088	12,194	30,282	7,200	37,482
WALLSEND	24,428	16,295	40,723	8,600	49,323

* Constituency returning two members.

PARLIAMENTARY CONSTITUENCIES. (1)	Existing Electorate.			Estimated Electorate under the Bill.	
	Men. (2)	Women. (3)	Total. (4)	New. (5)	Total. (6)
ORTHUMBERLAND—continued.					
Parliamentary County of Northumberland...	65,368	46,024	111,392	29,500	140,892
BERWICK UPON TWEED DIVISION	17,397	13,183	30,580	8,400	38,980
HEXHAM DIVISION	15,962	11,397	27,359	7,600	34,959
WANSBECK DIVISION	32,009	21,444	53,453	13,500	66,953
NOTTINGHAMSHIRE.					
Parliamentary Borough	72,212	59,186	131,398	34,100	165,498
NOTTINGHAM, CENTRAL DIVISION	17,888	15,752	33,640	9,100	42,740
" EAST DIVISION	18,385	15,506	33,891	8,700	42,591
" SOUTH DIVISION	17,600	13,952	31,552	8,400	39,952
" WEST DIVISION	18,339	13,976	32,315	7,900	40,215
Parliamentary County of Nottingham	120,339	83,671	204,010	45,000	249,010
BASSETLAW DIVISION	22,572	14,759	37,331	8,600	45,931
BROXTOWE DIVISION	24,744	17,039	41,783	7,900	49,683
MANSFIELD DIVISION	28,551	18,550	47,101	10,600	57,701
NEWARK DIVISION	20,397	14,532	34,929	8,700	43,629
RUSHCLIFFE DIVISION	24,075	18,791	42,866	9,200	52,066
KENT					
Parliamentary Borough—					
OXFORD }	15,462	13,120	28,582	8,900	37,482
Parliamentary County of Oxford	40,793	30,635	71,428	16,200	87,628
BANBURY DIVISION	20,840	15,882	36,722	8,100	44,822
HENLEY DIVISION	19,953	14,753	34,706	8,100	42,806
PETERBOROUGH, SOKE OF, see Northamptonshire with the Soke of Peterborough.					
RUTLANDSHIRE, see Lincolnshire.—The Parts of Kesteven, and Rutlandshire.					
SHEREBOROUGHSHIRE.					
Parliamentary County of Salop	71,309	50,134	121,443	29,700	151,143
LUDLOW DIVISION	14,870	10,724	25,594	6,200	31,794
OSWESTRY DIVISION	19,571	13,956	33,527	8,300	41,827
SHREWSBURY DIVISION	16,146	11,724	27,870	7,500	35,370
THE WREKIN DIVISION	20,722	13,730	34,452	7,700	42,152
SOMERSETSHIRE.					
Parliamentary Borough—					
BATH }	18,106	16,911	35,017	11,100	46,117
Parliamentary County of Somerset	115,261	95,509	210,770	51,200	261,970
BRIDGWATER DIVISION	18,115	14,809	32,924	8,500	41,424
FROME DIVISION	21,946	16,758	38,704	8,400	47,104
TAUNTON DIVISION	17,143	14,735	31,878	6,900	38,778
WELLS DIVISION	16,294	13,087	29,381	6,500	35,881
WESTON SUPER MARE DIVISION	21,561	19,920	41,481	13,000	54,481
YEOVIL DIVISION	20,202	16,200	36,402	7,900	44,302

PARLIAMENTARY CONSTITUENCIES. (1)	Existing Electorate.			Estimated Electorate under the Bill.	
	Men. (2)	Women. (3)	Total. (4)	New. (5)	Total. (6)
DUTHAMPTON.					
Parliamentary Boroughs	134,281	111,796	246,077	63,800	309,877
Bournemouth	22,514	22,779	45,293	19,700	64,993
Portsmouth, Central Division	22,133	17,194	39,327	8,500	47,827
" North Division	21,815	16,737	38,552	7,400	45,952
" South Division	22,213	20,238	42,451	11,800	54,251
*Southampton	45,606	34,848	80,454	16,400	96,854
Parliamentary County of Hants					
Aldershot Division	122,089	95,301	217,390	49,800	267,190
Basingstoke Division	14,678	13,032	27,710	6,300	34,010
Fareham Division	20,438	14,869	35,307	7,400	42,707
New Forest and Christchurch Division	22,389	17,717	40,106	9,100	49,206
Petersfield Division	23,647	18,451	42,098	10,400	52,498
Winchester Division... ..	18,550	14,361	32,911	7,700	40,611
	22,387	16,871	39,258	8,900	48,158
AFFORDSHIRE.					
Parliamentary Boroughs	241,879	173,607	415,486	93,000	508,486
Newcastle Under Lyme	18,525	13,620	32,145	6,300	38,445
Smethwick	21,166	14,845	36,011	9,100	45,111
Stoke on Trent, Burslem Division	19,417	13,806	33,223	7,900	41,123
" Hanley Division	21,275	14,701	35,976	9,400	45,376
" Stoke Division	25,136	17,125	42,261	12,200	54,461
Walsall	27,494	20,407	47,901	9,700	57,601
Wednesbury	23,510	17,645	41,155	8,300	49,455
West Bromwich	21,045	14,813	35,858	7,700	43,558
Wolverhampton, Bilston Division	20,321	14,467	34,788	7,000	41,788
" East Division	20,190	14,042	34,232	6,700	40,932
" West Division	23,800	18,136	41,936	8,700	50,636
Parliamentary County of Stafford					
Burton Division	152,331	104,567	256,898	56,500	313,398
Cannock Division	21,342	15,126	36,468	8,500	44,968
Kingswinford Division	29,201	18,892	48,093	9,100	57,193
Leek Division	25,208	17,427	42,635	9,200	51,835
Lichfield Division	21,262	14,847	36,109	8,000	44,109
Stafford Division	20,924	14,377	35,301	7,900	43,201
Stone Division... ..	15,445	11,048	26,493	5,300	31,793
	18,949	12,850	31,799	8,500	40,299
IFFOLK, EAST.					
Parliamentary Borough—					
Ipswich	23,881	18,648	42,529	10,100	52,629
Parliamentary County of East Suffolk					
Eye Division	59,986	45,745	105,731	24,400	130,131
Lowestoft Division	19,593	14,287	33,880	6,700	40,580
Woodbridge Division... ..	20,737	16,669	37,406	9,100	46,506
	19,656	14,789	34,445	8,600	43,045
IFFOLK, WEST.					
Parliamentary County of West Suffolk					
Bury St. Edmunds Division	33,576	25,773	59,349	11,700	71,049
Sudbury Division	18,230	14,119	32,349	6,300	38,649
	15,346	11,654	27,000	5,400	32,400

* Constituency returning two members.

PARLIAMENTARY CONSTITUENCIES. (1)	Existing Electorate.			Estimated Electorate under the Bill.	
	Men. (2)	Women. (3)	Total. (4)	New. (5)	Total. (6)
SURREY.					
Parliamentary Boroughs	127,571	109,154	236,725	61,100	297,825
CROYDON, NORTH DIVISION	31,516	25,949	57,465	14,900	72,365
" SOUTH DIVISION	29,584	24,739	54,323	14,300	68,623
KINGSTON UPON THAMES	22,450	20,122	42,572	9,800	52,372
RICHMOND	20,780	18,205	38,985	12,000	50,985
WIMBLEDON	23,241	20,139	43,380	10,100	53,480
Parliamentary County of Surrey	153,070	125,893	278,963	80,700	359,663
CHERTSEY DIVISION	23,752	19,483	43,235	12,400	55,635
EASTERN DIVISION	17,377	14,649	32,026	11,500	43,526
EPSOM DIVISION	23,501	19,791	43,292	13,800	57,092
FARNHAM DIVISION	21,341	17,183	38,524	10,700	49,224
GUILDFORD DIVISION	24,278	19,944	44,222	11,100	55,322
MITCHAM DIVISION	22,163	17,580	39,743	9,800	49,543
REIGATE DIVISION	20,658	17,263	37,921	11,400	49,321
SUSSEX, EAST.					
Parliamentary Boroughs	60,697	59,294	119,991	39,600	159,591
* BRIGHTON	45,670	43,267	88,937	29,300	118,237
HASTINGS	15,027	16,027	31,054	10,300	41,354
Parliamentary County of East Sussex	75,605	65,646	141,251	42,500	183,751
EASTBOURNE DIVISION	18,216	17,005	35,221	13,800	49,021
EAST GRINSTEAD DIVISION	23,061	19,373	42,434	10,900	53,334
LEWES DIVISION	16,942	14,061	31,003	7,900	38,903
RYE DIVISION	17,386	15,207	32,593	9,900	42,493
SUSSEX, WEST.					
Parliamentary County of West Sussex	55,778	47,969	103,747	30,100	133,847
CHICHESTER DIVISION	28,574	24,017	52,591	14,700	67,291
HORSHAM AND WORTHING DIVISION	27,204	23,952	51,156	15,400	66,556
WARWICKSHIRE.					
Parliamentary Boroughs	312,709	226,728	539,437	135,600	675,037
BIRMINGHAM, ASTON DIVISION	20,867	14,952	35,819	9,300	45,119
" DERITEND DIVISION	22,437	15,246	37,683	9,700	47,383
" DUDEDESTON DIVISION	20,532	14,243	34,775	8,500	43,275
" EDGBASTON DIVISION	21,591	16,880	38,471	11,600	50,071
" ERDINGTON DIVISION	26,378	18,715	45,093	12,500	57,593
" HANDSWORTH DIVISION	22,441	16,750	39,191	11,000	50,191
" KING'S NORTON DIVISION	18,165	13,348	31,513	7,800	39,313
" LADYWOOD DIVISION	19,678	14,304	33,982	8,500	42,482
" MOSELEY DIVISION	31,168	23,483	54,651	14,800	69,451
" SPARKBROOK DIVISION	21,353	15,771	37,124	9,600	46,724
" WEST BIRMINGHAM DIVISION	21,499	15,814	37,313	8,100	45,413
" YARDLEY DIVISION	27,454	18,901	46,355	10,900	57,255
COVENTRY	39,146	28,321	67,467	13,300	80,767
Parliamentary County of Warwick	104,677	76,048	180,725	45,000	225,725
NUNEATON DIVISION	34,149	22,269	56,418	12,100	68,518
RUGBY DIVISION	19,885	14,564	34,449	7,500	41,949
TAMWORTH DIVISION	24,977	18,330	43,307	11,900	55,207
WARWICK AND LEAMINGTON DIVISION	25,666	20,885	46,551	13,500	60,051

* Constituency returning two members.

PARLIAMENTARY CONSTITUENCIES. (1)	Existing Electorate.			Estimated Electorate under the Bill.	
	Men. (2)	Women. (3)	Total. (4)	New. (5)	Total. (6)
WESTMORLAND.					
Parliamentary County of Westmorland (undivided)	17,791	14,236	32,027	9,800	41,827
WIGHT, ISLE OF.					
Parliamentary County of Isle of Wight (undivided)	25,103	21,757	46,860	13,800	60,660
WILTSHIRE.					
Parliamentary County of Wilts	89,223	68,419	157,642	32,500	190,142
CHIPPENHAM DIVISION	16,669	12,804	29,473	5,700	35,173
DEVIZES DIVISION	15,316	11,625	26,941	5,000	31,941
SALISBURY DIVISION	18,387	14,205	32,592	7,900	40,492
SWINDON DIVISION	21,498	15,469	36,967	7,300	44,267
WESTBURY DIVISION	17,353	14,316	31,669	6,600	38,269
WORCESTERSHIRE.					
Parliamentary Boroughs... ..	30,050	24,442	54,492	11,700	66,192
DUDLEY	16,010	11,830	27,840	5,600	33,440
WORCESTER	14,040	12,612	26,652	6,100	32,752
Parliamentary County of Worcester	88,205	66,508	154,713	39,000	193,713
BRWDLEY DIVISION	15,322	12,518	27,840	8,900	36,740
EVESHAM DIVISION	17,944	13,478	31,422	7,500	38,922
KIDDERMINSTER DIVISION	25,404	19,437	44,841	12,000	56,841
STOURBRIDGE DIVISION	29,535	21,075	50,610	10,600	61,210
ORKSHIRE, EAST RIDING.					
Parliamentary Borough	84,713	62,415	147,128	30,000	177,128
KINGSTON UPON HULL, CENTRAL DIVISION	21,174	15,209	36,383	6,700	43,083
" EAST DIVISION	22,416	15,774	38,190	6,900	45,090
" NORTH WEST DIV.	19,717	15,820	35,537	8,100	43,637
" SOUTH WEST DIV.	21,406	15,612	37,018	8,300	45,318
Parliamentary County of York, East Riding	51,100	38,009	89,109	23,600	112,709
BUCKROSE DIVISION	17,666	13,667	31,333	10,100	41,433
HOLDERNESS DIVISION	17,270	13,019	30,289	7,000	37,289
HOWDENSHERE DIVISION	16,164	11,323	27,487	6,500	33,987
ORKSHIRE, NORTH RIDING.					
Parliamentary Borough	38,980	27,079	66,059	10,400	76,459
MIDDLESBROUGH, EAST DIVISION	18,298	12,248	30,546	4,300	34,846
" WEST DIVISION	20,682	14,831	35,513	6,100	41,613
Parliamentary County of York, North Riding	83,885	64,211	148,096	37,200	185,296
CLEVELAND DIVISION	26,236	18,705	44,941	8,600	53,541
RICHMOND DIVISION	19,088	13,712	32,800	8,300	41,100
SCARBOROUGH AND WHITBY DIVISION	21,599	19,987	41,586	13,100	54,686
THIRSK AND MALTON DIVISION	16,962	11,807	28,769	7,200	35,969
ORKSHIRE, WEST RIDING.					
Parliamentary Boroughs	533,105	406,052	939,157	216,400	1,155,557
BARNSELY	24,145	14,667	38,812	9,400	48,212
BATLEY AND MORLEY	22,268	16,985	39,253	9,400	48,653
BRADFORD, CENTRAL DIVISION	23,763	19,049	42,812	10,100	52,912
" EAST DIVISION	21,073	16,997	38,070	9,300	47,370
" NORTH DIVISION	20,252	16,966	37,218	9,400	46,618
" SOUTH DIVISION	24,878	20,280	45,158	11,500	56,658

PARLIAMENTARY CONSTITUENCIES.	Existing Electorate.			Estimated Electorate under the Bill.	
	Men. (2)	Women. (3)	Total. (4)	New. (5)	Total. (6)
" (1)					
ORKS, WEST RIDING—continued.					
Parliamentary Boroughs—continued.					
DEWSBURY	16,119	12,717	28,836	6,900	35,736
HALIFAX	28,619	23,394	52,013	14,300	66,313
HUDDERSFIELD	33,235	28,337	61,572	13,200	74,772
LEEDS, CENTRAL DIVISION	24,825	19,193	44,018	10,900	54,918
" NORTH DIVISION	22,540	18,906	41,446	10,600	52,046
" NORTH EAST DIVISION	22,232	18,127	40,359	10,000	50,359
" SOUTH DIVISION	20,125	16,142	36,267	7,300	43,567
" SOUTH EAST DIVISION	21,260	15,951	37,211	7,800	45,011
" WEST DIVISION	22,115	17,691	39,806	8,900	48,706
ROTHERHAM	27,142	16,804	43,946	9,500	53,446
SHEFFIELD, ATTERCLIFFE DIVISION	20,800	13,783	34,583	6,200	40,783
" BRIGHTSIDE DIVISION	23,030	16,022	39,052	8,000	47,052
" CENTRAL DIVISION	20,772	14,370	35,142	6,900	42,042
" ECCLESALL DIVISION	17,140	13,943	31,083	6,600	37,683
" HALLAM DIVISION... ..	17,785	14,252	32,037	8,100	40,137
" HILLSBOROUGH DIVISION	21,591	15,855	37,446	7,500	44,946
" PARK DIVISION	22,451	15,408	37,859	7,600	45,459
WAKEFIELD	14,945	10,213	25,158	7,000	32,158
Parliamentary County of York, West Riding.	442,706	312,104	754,810	176,600	931,410
BARKSTON ASH DIVISION	22,230	15,315	37,545	8,100	45,645
COLNE VALLEY DIVISION	24,113	18,686	42,799	11,100	53,899
DONCASTER DIVISION	27,144	17,581	44,725	9,700	54,425
DON VALLEY DIVISION... ..	29,731	17,592	47,323	9,600	56,923
ELLAND DIVISION	20,407	15,955	36,362	9,700	46,062
HEMSWORTH DIVISION... ..	22,949	13,055	36,004	7,000	43,004
KEIGHLEY DIVISION	21,047	16,855	37,902	10,000	47,902
NORMANTON DIVISION	21,272	12,409	33,681	6,900	40,581
PENISTONE DIVISION	21,866	14,659	36,525	7,800	44,325
PONTEFRAC T DIVISION	21,735	14,634	36,369	7,400	43,769
PUDSEY AND OTLEY DIVISION	20,461	16,478	36,939	10,600	47,539
RIPON DIVISION	20,788	18,603	39,391	13,600	52,991
ROTHER VALLEY DIVISION	25,591	15,737	41,328	8,300	49,628
ROTHWELL DIVISION	26,099	17,087	43,186	9,200	52,386
SHIPLEY DIVISION	21,507	18,184	39,691	10,400	50,091
SKIPTON DIVISION	22,690	17,054	39,744	10,100	49,844
SOWERBY DIVISION	19,773	15,622	35,395	9,100	44,495
SPEN VALLEY DIVISION	23,899	18,342	42,241	10,100	52,341
WENTWORTH DIVISION... ..	29,404	18,256	47,660	7,900	55,560
Parliamentary Borough—					
†YORK	23,845	18,468	42,313	9,800	52,113
UNIVERSITIES	49,712	8,369	58,081		
*THE UNIVERSITY OF OXFORD	12,861	950	13,811		
*THE UNIVERSITY OF CAMBRIDGE	19,154	2,481	21,635		
THE UNIVERSITY OF LONDON	10,063	3,519	13,582		
				} Not available.	

† Constituency returning two members. † The City of York is not associated with any of three Ridings.

PARLIAMENTARY CONSTITUENCIES. (1)	Existing Electorate.			Estimated Electorate under the Bill.	
	Men. (2)	Women. (3)	Total. (4)	New. (5)	Total. (6)
UNIVERSITIES—continued.					
*THE COMBINED ENGLISH UNIVERSITY					
CONSTITUENCY	7,634	1,419	9,053	} Not available.	
The University of Durham	1,201	134	1,335		
The Victoria University of Manchester	2,229	552	2,781		
The University of Liverpool	912	262	1,174		
The University of Leeds	892	106	998		
The University of Sheffield	245	42	287		
The University of Birmingham	1,328	190	1,518		
The University of Bristol	827	153	960		
WALES AND MONMOUTHSHIRE	779,115	539,548	1,318,663	—	—
Parliamentary Boroughs	230,941	160,466	391,407	79,700	471,107
Parliamentary Counties	546,200	378,425	924,625	188,000	1,112,625
University	1,974	657	2,631	Not available.	
ANGLESEY.					
Parliamentary County of Anglesey (undivided)	16,099	12,286	28,385	6,800	35,185
BRECKNOCKSHIRE AND RADNORSHIRE.					
Parliamentary County of Brecon and Radnor (undivided)	24,045	16,407	40,452	9,600	50,052
CAERNARVONSHIRE.					
Parliamentary Borough—					
CAERNARVON DISTRICT OF BOROUGHES }	14,104	12,078	26,182	9,700	35,882
Bangor M.B.	2,835	2,329	5,164	—	—
Caernarvon M.B.	2,270	1,940	4,210	—	—
Conway M.B.	1,852	1,472	3,324	—	—
Pwllheli M.B.	1,108	877	1,985	—	—
Criccieth U.D.	404	424	828	—	—
Llandudno U.D.	3,057	2,881	5,938	—	—
Llanfairfechan U.D.	884	728	1,612	—	—
Penmaenmawr U.D.	1,079	943	2,022	—	—
Civil Parish of Nevin	615	484	1,099	—	—
Parliamentary County of Caernarvon (undivided)	22,671	16,707	39,378	8,800	48,178
CARDIGANSHIRE.					
Parliamentary County of Cardigan (undivided)	17,290	15,840	33,130	6,400	39,530
CARMARTHENSHIRE.					
Parliamentary County of Carmarthen	53,920	36,869	90,789	19,500	110,289
CARMARTHEN DIVISION	21,220	16,262	37,482	7,800	45,282
LLANELLY DIVISION	32,700	20,607	53,307	11,700	65,007
DENBIGHSHIRE.					
Parliamentary County of Denbigh	44,688	31,796	76,484	19,900	96,384
DENBIGH DIVISION	18,806	15,245	34,051	10,700	44,751
WREXHAM DIVISION	25,882	16,551	42,433	9,200	51,633
FLINTSHIRE.					
Parliamentary County of Flint (undivided)	31,480	22,679	54,159	14,100	68,259

* Constituency returning two members.

PARLIAMENTARY CONSTITUENCIES. (1)	Existing Electorate.			Estimated Electorate under the Bill.	
	Men. (2)	Women. (3)	Total. (4)	New. (5)	Total. (6)
LAMORGANSHIRE.					
Parliamentary Boroughs	190,056	128,913	318,969	60,800	379,769
CARDIFF, CENTRAL DIVISION... ..	21,022	16,078	37,100	7,900	45,000
" EAST DIVISION	16,893	13,275	30,168	6,900	37,068
" SOUTH DIVISION	17,302	12,755	30,057	5,600	35,657
MERTHYR TYDFIL, ABERDARE DIVISION	28,850	18,421	47,271	8,300	55,571
" " MERTHYR DIVISION	22,901	15,086	37,987	6,800	44,787
RHONDDA, EAST DIVISION	25,079	14,986	40,065	6,800	46,865
" WEST DIVISION	22,550	13,412	35,962	5,900	41,862
SWANSEA, EAST DIVISION	17,114	11,680	28,694	5,500	34,194
" WEST DIVISION	18,345	13,320	31,665	7,100	38,765
Parliamentary County of Glamorgan	177,634	116,776	294,410	53,900	348,310
ABERAVON DIVISION	23,058	14,372	37,930	7,800	45,730
CAERPHILLY DIVISION	23,967	14,592	38,559	6,600	45,159
GOWER DIVISION	22,361	15,317	37,678	7,800	45,478
LLANDAFF AND BARRY DIVISION	27,416	20,404	47,820	9,400	57,220
NEATH DIVISION	29,853	19,100	48,953	9,000	57,953
OGMORE DIVISION	25,440	16,194	41,634	6,800	48,434
PONTYPRIDD DIVISION... ..	25,539	16,297	41,836	6,500	48,336
ERIONETHSHIRE.					
Parliamentary County of Merioneth (undivided)	13,215	10,355	23,550	6,400	29,950
ONMOUTHSHIRE.					
Parliamentary Borough— NEWPORT	26,781	19,475	46,256	9,200	55,456
Parliamentary County of Monmouth	105,129	68,909	174,038	27,100	201,138
ABERTILLY DIVISION	20,544	13,276	33,820	4,100	37,920
BEDWELLY DIVISION	23,314	14,317	37,631	6,100	43,731
EBBW VALE DIVISION	20,637	13,193	33,830	4,800	38,630
MONMOUTH DIVISION	19,160	14,006	33,166	6,300	39,466
PONTYPOOL DIVISION	21,474	14,117	35,591	5,800	41,391
ONTGOMERYSHIRE.					
Parliamentary County of Montgomery (un- divided)	14,570	10,602	25,172	5,700	30,872
EMBROKESHIRE.					
Parliamentary County of Pembroke(undivided)	25,459	19,219	44,678	9,800	54,478
ADNORSHIRE.					
See Brecknockshire and Radnorshire.					
DIVERSITY—					
THE UNIVERSITY OF WALES	1,974	657	2,631	not available.	

PARLIAMENTARY CONSTITUENCIES. (1)	Electorate (Autumn 1924 Register).			Estimated Electorate under the Bill.	
	Men. (2)	Women. (3)	Total. (4)	New. (5)	Total. (6)
SCOTLAND	1,343,276	966,099	2,309,375	—	—
Parliamentary Boroughs	642,118	495,983	1,138,101	240,588	1,378,689
Parliamentary Counties	673,444	465,853	1,139,297	311,914	1,451,211
Universities	27,714	4,263	31,977	not available.	
ABERDEEN AND KINCARDINE (Parliamentary County)					
CENTRAL DIVISION	16,809	11,849	28,658	7,838	36,496
EASTERN DIVISION	15,570	11,456	27,026	6,779	33,805
KINCARDINE AND WESTERN DIVISION	13,107	9,395	22,502	5,956	28,458
ABERDEEN (Parliamentary Borough)					
NORTH DIVISION	19,543	14,283	33,826	9,740	43,566
SOUTH DIVISION	21,096	17,862	38,958	8,070	47,028
ARGYLL (Parliamentary County)	18,891	12,996	31,887	10,366	42,253
AYR AND BUTE (Parliamentary County)					
BUTE AND NORTHERN DIVISION	22,165	17,911	40,076	7,315	47,391
KILMARNOCK DIVISION	20,321	13,994	34,315	9,133	43,448
SOUTH AyrSHIRE DIVISION	18,808	11,420	30,228	9,986	40,214
AYR DISTRICT OF BURGHS (Parliamentary Borough)	20,244	15,072	35,316	10,504	45,820
BANFF (Parliamentary County)	17,115	11,750	28,865	8,043	36,908
BERWICK AND HADDINGTON (Parliamentary County)	20,139	13,878	34,017	10,091	44,108
CAITHNESS AND SUTHERLAND (Parliamentary County)	13,969	9,012	22,981	7,206	30,187
DUMBARTON (Parliamentary County)	19,981	14,694	34,675	10,242	44,917
DUMBARTON DISTRICT OF BURGHS (Parliamentary Borough)	17,984	11,526	29,510	5,434	34,944
DUMFRIES (Parliamentary County)	19,738	14,335	34,073	10,852	44,925
FIFE (Parliamentary County)					
EASTERN DIVISION	18,441	16,049	34,490	6,487	40,977
WESTERN DIVISION	20,189	12,828	33,008	11,334	44,342
DUNFERMLINE DISTRICT OF BURGHS (Parliamentary Borough)	18,128	12,389	30,517	6,029	36,546
KIRKCALDY DISTRICT OF BURGHS (Parliamentary Borough)	18,932	13,642	32,574	7,807	40,381
FORFAR (Parliamentary County)	13,491	10,425	23,916	6,927	30,843
*DUNDEE (Parliamentary Borough)	42,804	35,493	78,297	24,544	102,841
MONTROSE DISTRICT OF BURGHS (Parliamentary Borough)	11,785	11,783	23,568	6,074	29,642
GALLOWAY (Parliamentary County)	17,109	12,831	29,940	10,270	40,210
INVERNESS AND ROSS AND CROMARTY (Parliamentary County)					
INVERNESS DIVISION	20,408	13,467	33,875	9,782	43,657
ROSS AND CROMARTY DIVISION	14,983	9,509	24,492	7,560	32,052
WESTERN ISLES DIVISION	12,559	8,601	21,160	5,796	26,956
LANARK (Parliamentary County)					
BOTHWELL DIVISION	20,446	12,219	32,665	7,959	40,624
COATBRIDGE DIVISION	19,197	11,155	30,352	7,790	38,142
HAMILTON DIVISION	17,400	10,527	27,927	6,645	34,572
LANARK DIVISION	18,158	12,984	31,142	4,936	36,078
MOTHERWELL DIVISION	18,591	11,279	29,870	7,068	36,938
NORTHERN DIVISION	20,301	11,895	32,196	8,139	40,335
RUTHERGLEN DIVISION	20,020	13,058	33,078	6,699	39,777

*Constituency returning two members

PARLIAMENTARY CONSTITUENCIES. (1)	Electorate (Autumn 1924 Register).			Estimated Electorate under the Bill.	
	Men. (2)	Women. (3)	Total. (4)	New. (5)	Total, (6)
GLASGOW (Parliamentary Borough)					
BRIDGETON DIVISION	21,858	14,714	36,572	8,472	45,044
CAMLACHIE DIVISION	20,436	15,478	35,914	6,199	42,113
CATHCART DIVISION	18,467	16,588	35,055	3,001	38,056
CENTRAL DIVISION	26,126	17,888	44,014	9,825	53,839
GORBALS DIVISION	24,084	16,407	40,491	9,140	49,631
GOVAN DIVISION	18,643	12,851	31,494	6,925	38,419
HILLHEAD DIVISION	13,832	13,689	27,521	983	28,504
KELVINGROVE DIVISION	21,871	17,972	39,843	5,228	45,071
MARYHILL DIVISION	19,675	15,262	34,937	5,608	40,545
PARTICK DIVISION	15,331	12,319	27,650	3,943	31,593
POLLOK DIVISION	18,137	17,652	35,789	1,587	37,376
ST. ROLLOX DIVISION	21,774	15,304	37,078	7,793	44,871
SHETTLESTON DIVISION	17,772	12,555	30,327	6,297	36,624
SPRINGBURN DIVISION	20,320	14,600	34,920	6,954	41,874
TRADESTON DIVISION	20,232	14,145	34,377	7,316	41,693
LINLITHGOW (Parliamentary County)	22,867	13,245	36,112	7,056	43,168
MIDLOTHIAN AND PEEBLES (Parliamentary County)					
NORTHERN DIVISION	15,012	10,877	25,889	8,289	34,178
PEEBLES AND SOUTHERN DIVISION	14,048	10,162	24,210	7,773	31,983
EDINBURGH (Parliamentary Borough)					
CENTRAL DIVISION	18,204	14,540	32,744	8,701	41,445
EAST DIVISION	15,517	11,957	27,474	7,854	35,328
NORTH DIVISION	20,152	17,447	37,599	8,281	45,880
SOUTH DIVISION	16,310	17,137	33,447	3,686	37,133
WEST DIVISION	19,944	16,674	36,618	8,788	45,406
LEITH (Parliamentary Borough)	22,459	17,021	39,480	11,652	51,132
MORAY AND NAIRN (Parliamentary County)	13,311	10,234	23,545	6,718	30,263
ORKNEY AND ZETLAND (Parliamentary County)	14,774	9,031	23,805	9,444	33,249
PERTH AND KINROSS (Parliamentary County)					
KINROSS AND WESTERN DIVISION	14,384	11,317	25,701	8,349	34,050
PERTH DIVISION	19,166	15,601	34,767	10,613	45,380
RENFREW (Parliamentary County)					
EASTERN DIVISION	17,410	12,086	29,496	7,948	37,444
WESTERN DIVISION	20,642	15,591	36,233	8,163	44,396
GREENOCK (Parliamentary Borough)	20,114	13,579	33,693	6,611	40,304
PAISLEY (Parliamentary Borough)	21,740	16,166	37,906	10,182	48,088
ROXBURGH AND SELKIRK (Parliamentary County)	19,001	15,528	34,529	10,485	45,014
STIRLING AND CLACKMANNAN (Parliamentary County)					
CLACKMANNAN AND EASTERN DIVISION	20,180	12,966	33,146	8,980	42,126
WESTERN DIVISION	14,752	9,668	24,420	6,397	30,817
STIRLING AND FALKIRK DISTRICT OF BURGHS (Parliamentary Borough)	18,604	11,988	30,592	7,360	37,952
*UNIVERSITIES—					
ST. ANDREWS, GLASGOW, ABERDEEN AND EDINBURGH	27,714	4,263	31,977	not available.	

*One constituency returning three members.



MINISTRY OF HEALTH

Proposals for Reform in Local Government

and in the

FINANCIAL RELATIONS BETWEEN THE EXCHEQUER AND LOCAL AUTHORITIES

*Presented by the Minister of Health to Parliament
by Command of His Majesty
June, 1928*

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Proposals for Reform in Local Government and in the Financial Relations between the Exchequer and Local Authorities in England and Wales.

1. As the result of a careful review of the difficulties of productive industry the Government have, as Local Authorities are aware, come to the conclusion that the basis of rating of agricultural, industrial and transport properties needs to be revised; and they have adopted a plan which they believe will not only place the rating of these properties on a more rational basis, but will, more than any other political action which could be taken, contribute to the revival of agriculture and the basic industries. Their proposals were outlined by the Chancellor of the Exchequer in opening the budget; and, as was then indicated, they involve not only some important changes in the machinery of local government, but a considerable modification of the financial relations between the Local Authorities and the Exchequer. In considering the effect of these changes it must be realised that the rating relief and the changes in the machinery and finance of local government are connected parts of one single policy.

Legislation will be submitted to Parliament as early as possible in the autumn session, to give effect to the administrative and financial adjustments of local government; and the object of this memorandum is to inform Local Authorities in advance and in some detail of the changes proposed to be embodied in the legislation. It is hoped that in this way their full co-operation may be secured and that, as a result of discussions between their representatives and the Government, the legislation may be framed on practical lines so as to be of the greatest permanent value to local government.

2. The first element in the Government's plan is the relief to productive industry. The grounds for this proposal have been fully stated in Parliament, and the Rating and Valuation (Apportionment) Bill, which is the first piece of machinery required in connection with the whole scheme, is now before Parliament. It is not proposed, therefore, to recapitulate the grounds for the decision to derate, or to discuss the details of the Rating and Valuation (Apportionment) Bill. But in order that the manner in which Local Authorities will be directly affected by the relief given to industrial and agricultural property may be appreciated, it may be recalled that the effect of the derating proposals is that, from the 1st October, 1929—

Agricultural land and agricultural buildings will cease to be rated.

Industrial hereditaments will be rated on a rateable value which is to be one-fourth of the net annual value, as defined by the Rating and Valuation Act, 1925.*

* In London, one-fourth of the rateable value as determined under the Valuation (Metropolis) Act, 1869, and the Rating and Valuation Act, 1928.

Pk. 358 30 6/28 F.O.P. [17804] [17847]
Wt. 12774/639 3M, 9/28 [18199]

Freight transport hereditaments will be rated at one-fourth of what they would pay under the existing law.

(It will be remembered that the relief in respect of rates on railways is conditional on the equivalent of the reduction in rates being used to reduce the freight charges on certain selected classes of goods.)

The hereditaments which are to be the subjects of derating are defined in detail in the Rating and Valuation (Apportionment) Bill, which also provides the machinery for the preparation of a special list of the values of the properties to be the subjects of derating, as at 1st October, 1929, and for permanent valuation provisions which will be applicable to those properties after that date. Properties in the occupation of the Crown will be dealt with on similar lines.

3. The magnitude of these rating changes must profoundly affect both the general structure of local government and Local Authorities individually. Until the preparation of the special lists provided for in the Rating and Valuation (Apportionment) Bill has been completed, it will be impossible to state with precision the amount of rates at present being raised by Local Authorities on the part of the rateable value of their areas which under the Government's proposals will be the subject of rate relief. That amount is throughout this Memorandum referred to as "loss of rates." It is estimated that, had the derating proposals been in operation in the year 1926-27, the loss of rates, taking England and Wales as a whole, would have amounted in round figures to £24,000,000 for the year. Obviously, if Local Authorities are to suffer so serious a loss of rating power, some alternative source of revenue must be provided, and the Chancellor of the Exchequer has indicated that he is prepared, as part of the general scheme, to find moneys for this purpose from the Exchequer.

4. The receipts of Local Authorities from Government grants in the year 1926-27 (which is the latest year for which complete figures are available) were approximately £87,000,000, while the total of rates collected was £159,500,000. If in that year the relief now proposed had already been given to agricultural, industrial and transport property, and the proportion of local expenditure to be found under the present scheme from the Exchequer had corresponded with the above estimate of £24,000,000, the relation between grants and rates would have been—

Grants	...	...	...	...	£111,000,000
Rates	...	...	...	...	£159,500,000

So large an increase in the Exchequer grants in aid of rates necessitates some reconsideration of the grant system, and the more so because reforms in regard to certain parts of that system have long been accepted as necessary. In particular (and especially having in mind that the relief of industry is a primary reason for undertaking a scheme of this magnitude) it has seemed to the Government that no scheme of the kind would be complete

unless consideration were given to the case of those districts which have been commonly called necessitous areas.

5. If the derating proposals are important in relation to the whole fabric of local government, they are no less so in their influence on individual Local Authorities. It must first be remarked that no scheme for providing an alternative source of revenue for Local Authorities can take the form of a grant varying from year to year with the expenditure of individual authorities. Under such a scheme, the Government would be committed to finding a material proportion of every Local Authority's general expenditure without any possibility of effective control, and the financial interest of Local Authorities in their administration would be seriously impaired.

6. The most important effect of the derating proposals on the position of the individual Local Authority is clearly the narrowing of the basis of taxation available to that Authority, which necessarily involves a greater or less impairment of the capacity to meet the considerable fluctuations in certain classes of expenditure inevitable from time to time. This is a matter of less significance in the case of larger Authorities, or of those whose resources are drawn from a wide area, but is of the greatest importance in the case of smaller and financially weaker Authorities who may be responsible for services involving considerable expenditure liable to periodic fluctuations between wide limits.

An examination of returns rendered by Local Authorities indicates that the loss of rates in rural areas due to the derating proposals will vary from about 3 per cent. to about 57 per cent. Thus in the extreme case the reduced assessable value on which would be charged any future increase in the cost of the local services would be little more than 40 per cent. of the present assessable value; in other words, where the Local Authority at present would require to meet an increase of expenditure by an additional levy of 1s. in the £, it would in the future, in the absence of special action, have to levy a rate of 2s. 6d. in the £.

7. The Government have accordingly come to the conclusion that the necessary accompaniments of the derating scheme are (a) some modification of the basis and method of Government contribution to local services; (b) arrangements to meet the case of the necessitous areas; (c) arrangements to obviate the difficulties of those Authorities whose finances are on too narrow a basis. If the case of necessitous areas is to be met, a new method of distribution of Government grants and re-organisation of administrative arrangements are both requisite. Change in the areas or functions of some authorities is the only way in which a remedy can properly be found for the difficulties of those Authorities whose resources would be inadequate to enable them to meet their needs under the new conditions.

8. Such a change must generally proceed on the basis of widening the area of charge, which is in the line of the development of English local government for many generations and is fully

consistent with the principles on which local government is organised. The services for which there is a clear case for modification of this kind are the poor law and highway administration; and in both cases it appears to the Government that the duties should be entrusted to Local Authorities of the first importance, and that the area of the charge should be as wide as is compatible with effective local interest in the work to be undertaken.

POOR LAW REFORM.

9. When the parish was found too small to bear the responsibility for poor law administration, the burden was eased by the creation of the union and the spreading of the charge over the wider area thus formed. To-day, the union itself is often in the same position as that formerly occupied by the parish, and in times of stress one union may be weighed down by an excessive burden, while its neighbour may escape with a comparatively light load, though parts of both areas may be much alike. These inequalities of rate burden will be accentuated by the rating relief which it is proposed to give to productive industry, since unions which are mainly industrial or mainly agricultural will be more seriously affected than those which are mainly residential, but it is in the industrial class that unavoidable increases of expenditure are most likely to occur. An increase in necessary expenditure, which might be crippling if it had to be met from the rate and grant resources of a particular district, may be inconsiderable if spread over a much wider area.

In revising the financial relations between the Exchequer and Local Authorities, and in providing such additional Exchequer money as can be found for the purpose, the Government aim at mitigating the existing inequalities of rate burden. That aim cannot be attained within the limits of the Exchequer money available if distribution is made over areas so small as many of the existing units of local government, but if the charges for so onerous a service as the poor law were spread over the widest possible area compatible with sound administration, a more equitable sharing of rate burden would be secured, and such Exchequer assistance as could be given would be used to the best advantage. The Government propose, therefore, that the responsibility for poor law administration shall be transferred to the Councils of Counties and County Boroughs. They are satisfied that the conditions of their general scheme of rating relief necessitate this change, and it appears to them that the change should also be made on general grounds.

The present Poor Law Unions were set up in 1834, and their size was regulated, among other things, by reference to the means of access at that time available. Actually, the unions were based upon the market towns; and each union was made solely responsible for its poor, whether the assistance needed was medical or financial. The result is that every rural union in the country has institutions which, with the decline in rural areas in the number of persons relieved institutionally, are seldom kept full, and as regards facilities for medical treatment cannot economically be brought up to date. Meanwhile, other Authorities charged with the duty both of prevent-

ing disease and of treating the sick have been established, with the result that their functions overlap those of Boards of Guardians. The transfer of the poor law to County and County Borough Councils would eliminate this overlapping, would make possible a better classification of the sick, and would lead to economies in the provision of institutional treatment, the general demand for which is everywhere steadily expanding.

It will be seen that the Government propose to revert to a scheme of Poor Law Reform on the lines of that embodied in the Provisional Proposals circulated in January 1926. In the later memorandum circulated to the Associations of Local Authorities on the 8th June, 1927, that scheme was proposed to be modified to the extent that while all poor law functions were to be transferred to County Boroughs, each of which became a single unit of local government for all purposes, only responsibility for institutional treatment, vagrancy and the provision of work tests for the able-bodied were to be transferred to the County Councils; the rest of the poor law functions and the financial burdens were to remain on the unions, the areas of which were to be reconsidered and adapted so as to secure better units, subject to the general condition that union boundaries should in no case overlap county or county borough boundaries. The effect of the derating scheme on the finances of unions, and the strong desire of the Government to mitigate existing inequalities of rate burdens, have led the Government to the conclusion that the proposals of 1927 will not now meet the needs of the situation, and it will not escape the attention of Local Authorities that under those proposals it would be impossible to furnish them with information as to the financial position in any area under the Budget scheme, since the areas for poor law purposes would not be settled for a considerable time.

10. The main alterations in the existing law and practice of poor law administration which arise out of the transfer of the functions of the present Boards of Guardians to the Councils of Counties and County Boroughs may be outlined as follows:—

POOR LAW REFORM PROPOSALS.

(i) As from the 1st April, 1930, the functions of the present poor law authorities will be transferred to the Councils of Counties and County Boroughs. Each County and County Borough will be a complete unit.

(ii) After the passing of the Act providing for the reform of the Poor Law, the Council of every County and County Borough will be required to prepare, in anticipation of the date of the Act coming into operation, a scheme of the administrative arrangements which it will make for the discharge of its new functions.

It is contemplated that such schemes may include provision—

(a) For the delegation or reference of any of the new functions (apart from the power of raising a rate or of borrowing money) either to an existing committee of the Council or to a committee specially constituted for the purpose.

- (b) For the division of the County area into districts and for the establishment therein of local sub-committees of any committee (whether an existing or a new committee), to which any of the transferred functions are delegated or referred.
- (c) Subject to the maintenance of a majority of elected members, for the co-option to any such committee or local sub-committee, of persons who are not members of the Council, including persons, such as former members of poor law authorities, experienced in the matters delegated or referred to the committees or sub-committees, and members of other Local Authorities.

It will be a definite requirement, where a County or County Borough Council decides to provide in its scheme for co-option, that the scheme shall provide for the co-option of women as well as men. Provision will be made for the publication of any scheme and for the representations of Local Authorities and persons interested to be considered. Every scheme will be subject to the approval of the Ministry of Health.

It will be open to County or County Borough Councils to delegate poor law functions transferred to them to existing committees: for example—

Assistance to mothers and children under five years of age might be a matter for the Maternity and Child Welfare Committee of the Council. The education of "Poor Law" children might be dealt with by the Education Committee of the Council. The maintenance of children in institutions might be undertaken by that committee, but the cost would not attract an education grant from the Exchequer.

It is intended, however, to give the widest latitude for the making of arrangements suited to local conditions.

(iii) Where the Council of a County District is a local education authority or an authority for maternity and child welfare, the County Council will have power, and it is expected that they will normally find it convenient to exercise it, to delegate to the Council of the County District the local handling of questions relating to the education of poor law children and assistance to mothers and children under the age of 5 years, subject to such conditions as may be agreed upon between the two Authorities.

(iv) Provision will be made for the transfer of existing assets and liabilities of poor law authorities, subject to adjustments which will safeguard the interests of the ratepayers of the existing union areas, or when an existing union extends into more than one County or County Borough, of the divided parts of the union area.

It is not intended, however, to provide for adjustments for future burdens. One main object of the proposed transfer of powers is that future burdens shall be equalised by enlarging the present areas of charge. Any adjustment in respect of future burdens would be quite incompatible with this object.

(v) The area of settlement (or irremovability) of the chargeable poor will be the County or County Borough in lieu of the Parish or Union.

(vi) Existing Poor Law Officers will be transferred to the new authorities, and proper provision for compensation, where necessary, will be included in the Bill.

London.

The foregoing paragraphs will apply to London, subject to any modifications resulting from the different arrangements in London, for education and maternity and child welfare.

As a natural consequence of the transfer of Poor Law functions, the Metropolitan Asylum Board will cease to exist and the London County Council will become responsible for the services at present maintained by the Board. The Metropolitan Common Poor Fund will also cease to exist as the cost of the relief of the poor will be spread over the County through the County Rate.

REFORM IN HIGHWAY ADMINISTRATION.

11. The revolution in road transport which has taken place in recent years has inevitably led to a large expenditure on highways. Great efforts have been made by local authorities throughout the country to improve and maintain their roads to the standard required by modern vehicles, but the cost to the authorities, in spite of the large sums which have been available from the Road Fund, is undoubtedly a serious burden, and, further, is a burden which, under the existing system of highway administration, it has been impossible to distribute equitably as between the various authorities concerned.

When road traffic was horse-drawn, not only was the cost of highway maintenance much lower, but the great bulk of the traffic, owing to its small radius of action, was a matter far more local in its interest and importance than it is to-day.

There has, of course, always been an element of through traffic, which was formerly carried on the turnpike roads, the predecessors of the present main roads. In 1878 it was provided by the Highways and Locomotives (Amendment) Act that any road which had been disturnpiked after 1870, or should be disturnpiked in future, should be deemed to be a main road, and that one half of the cost of maintenance of such roads should be defrayed out of the county rate. Since the institution of county councils in 1888, main roads have been maintained and repaired wholly at their cost. By thus vesting in the largest administrative units in the system of local government, the financial responsibility of maintaining through communications, the legislature recognised the principle that the smaller authorities should not pay the whole of the costs occasioned by traffic which, while passing over the through roads in their area, in many cases brought them no benefit. But the subsidiary systems of communications branching from the trunk roads were used in the days of horse-drawn vehicles almost entirely by purely local traffic, and their maintenance was justly regarded as a proper charge on the urban or rural district in which they were

situated. Urban streets still serve local purposes almost exclusively, but the use of rural highways has fundamentally changed in character. At the present time they form part of a large and expanding system of transport of goods by roads in which individual organisations often cover an area of many counties. In addition, the rural areas are penetrated by a large and increasing volume of pleasure traffic, which includes a considerable proportion of heavy vehicles. The effect of these changes is accentuated by the wide differences which exist both in the resources of individual rural authorities and in the mileage of roads for which they are responsible. Some rural districts in which a penny rate produces less than £50 are responsible for the upkeep of important links in the highway system. One district has a quarter of a mile of public highway to maintain, while others embrace within their boundaries a considerable mileage of important roads.

12. In these circumstances it is not surprising that many rural authorities complain that the maintenance of their highways to an adequate standard demands an expenditure which it is difficult, if not impossible, for them to meet. In the case of a poor rural authority for instance, the cost of reconstruction of one road in order to make it suitable for carrying a service of motor omnibuses may cause an appreciable increase for many years in the rates, which are, moreover, liable to sharp fluctuations due to necessary periodic works of highway maintenance. In many cases rural authorities are unable to afford an adequate supervisory personnel for their roads or to carry out works of reconstruction which, while costly in themselves, would lead to substantial ultimate economies. These difficulties have been recognised by the Government and considerable sums have been allocated from the Road Fund for the purpose of meeting them, but the main function of this Fund is the maintenance and improvement of through communications and special assistance from this source for rural authorities can be regarded only as a palliative. A solution which will contain the elements of equity and permanence demands a reform in the system of highway administration with the two-fold object of effecting a substantial reduction in the number of independent highway authorities and of distributing the cost of maintenance of the more important highways over the largest administrative units of local government.

13. The Government proposals in regard to the local taxation system afford a valuable opportunity for such a reform, which, urgent as it is in existing circumstances, both on grounds of equity and of efficiency, will become essential when the resources of rural authorities are diminished by the derating scheme. Furthermore, these changes make it possible to introduce a great measure of simplification into the system by which assistance is afforded out of the Road Fund towards the upkeep of a great part of the roads of the county. In this matter an important distinction has to be drawn between the classified roads in administrative counties outside London which carry a high proportion of through traffic and all other roads whether in town

or country, on which the traffic, however intense, still mainly concerns the county or county borough in which the road is situated. Whereas in the latter case the cost of maintenance chiefly depends on local circumstances, the expenditure on classified roads in administrative counties is greatly affected by external factors. It is accordingly proposed to retain the grants in respect of the Class I and Class II roads outside London and the county boroughs on a percentage basis, but to provide in future for assistance towards the maintenance and minor improvement of all other roads under the new scheme of State aid to local authorities. In all cases, however, works in the nature of major improvements of Class I and Class II Roads as through communications would continue to receive assistance through special grants from the Road Fund on a percentage basis as heretofore.

14. The modifications proposed in the existing system of highway administration may be briefly summarised as follows:—

- (i) The counties will assume complete responsibility for the maintenance of all roads in rural districts and the substantial existing differences in the highway rates payable in individual rural districts in the same county will disappear.
- (ii) The responsibility resting upon the counties for the maintenance of through communications will be extended by the transference to them of the financial charges in respect of all Class I and Class II Roads in boroughs and urban districts outside the county boroughs.
- (iii) The counties will become highway authorities in respect of all roads transferred to them, but consideration will be given to the question whether, and if so, on what conditions, certain of the other authorities should not carry out the actual work on their Class I and Class II Roads and other "main" roads, where it is clear that such a course is justified by considerations of efficiency and economy.
- (iv) Boroughs and urban district councils will continue to be responsible for the maintenance of the roads in their areas (mainly residential "streets") which are not already maintainable by the county or which would not be transferred to the county as classified roads under paragraph (ii).
- (v) County Boroughs and metropolitan boroughs will retain their existing responsibility in respect to all the roads in their areas.
- (vi) Where the highway responsibilities of existing authorities are extinguished a transference to the county of stores, plant and other property for the upkeep of highways will be necessary. Provision will be made to protect the interests of the ratepayers of such highway authorities.

- (vii) Officers employed in connection with the maintenance of roads which will be transferred to the counties under the new scheme will, no doubt, in the majority of cases be required by the counties. Proper provision for compensation where necessary will be included in the Bill.

FINANCIAL PROPOSALS.

15. The grants from the Exchequer to local services which it is proposed to review in connection with the derating proposals, and the provision of a new source of revenue for Local Authorities, are as follows :—

- (i) The Assigned Revenue Grants.
- (ii) The grants under the Agricultural Rates Acts, 1896 and 1928.
- (iii) The percentage grants in aid of health services :—*
 - Tuberculosis.
 - Maternity and Child Welfare.
 - Welfare of the Blind.
 - Venereal Diseases.
 - Mental Deficiency.
- (iv) The classification grants for Class I and Class II roads in London and County Boroughs, and the grants for the maintenance of scheduled roads in County Districts.

Exchequer grants other than the above-named will not be affected by the scheme.

16. The Government propose to widen materially the scope of the Exchequer grants to make up the deficiency due to derating. They have considered how the principles which, in their view, should regulate a proper system of Exchequer grants, can be applied so as to remedy the defects in the existing methods of payment :—

- (i) The assigned revenues are related neither to the needs nor even to the expenditure of the Local Authorities ;
- (ii) The grants under the Agricultural Rates Acts again are not related to the need for public services, but only to expenditure ;
- (iii) and (iv) The percentage grants for health services, and the maintenance of roads, require close supervision by the Central Department of the work of the Local Authorities to whom they are paid. Moreover, as they are not related closely to needs but to expenditure, their effect is that those areas which are poorest, and can least afford to maintain an adequate standard, are just those which receive the least assistance from national funds.

It will be seen that the existing system is open to the strongest criticism. It is complicated by the payment of grants on varying bases. It requires detailed supervision of the services provided by

* The grants in aid of port sanitary services and of training of midwives and health visitors will be continued on the present basis.

Local Authorities on which direct grants are paid. At the same time it leaves the State with a liability under the Agricultural Rates Act, 1923, to pay its proportion of whatever the Local Authority chooses to spend.

In the Government's view a proper system should—

- (a) recognise that a fair contribution should be made from the Exchequer towards the cost of local services;
- (b) ensure that Local Authorities have complete financial interest in their administration;
- (c) be adapted in its working to the needs of the areas;
- (d) permit the greatest freedom of local administration and initiative;
- (e) provide for sufficient general control and advice from the Central Departments to ensure a reasonable standard of performance :

Accordingly, it is proposed to abolish as from the 1st April, 1930, the existing Exchequer grants referred to in paragraph 15.

17. The portions of the Assigned Revenue Grants at present applied to education and police services, amounting to about £3,800,000, are, under present arrangements, treated as part of and deducted from the grants which would otherwise be payable by the Board of Education and Home Office in aid of education and police services, and, on the abolition of the Assigned Revenues, it is proposed that the equivalent of the grants applied to these services should be paid by these Departments out of voted monies.

18. The Local Taxation Licence duties levied by the councils of counties and county boroughs which do not pass through the Local Taxation Account,* amounting to about £1,400,000, will remain leviable by these authorities and will be retained by them.

19. The loss to the local authorities under the scheme will, therefore, be the rates on the rateable value lost under the derating proposals and the grants specified in paragraph 15, other than the parts of the assigned revenues referred to in paragraphs 17 and 18. In place of the rate and grant revenue so lost by local authorities, it is proposed to substitute a new source of revenue—an annual Exchequer grant in aid—fixed in total and for each authority for a period of 5 years, and revised both in total and for each authority every five years.

20. The total sum to be distributed annually as the new grant in aid of revenue for the first quinquennial period will be made up of—

- (i) the estimated loss of rates due to derating which would have been incurred by all local authorities in the year 1928-29 (taken for the purposes of the scheme as “the standard

* Licences to deal in game, licences to kill game, licences for dogs, guns, armorial bearings and male servants.

- year") on the assumption that the proposed local government changes had been in operation in that year, and that the Valuation List in force on the 1st October, 1929, had been in force in that year;
- (ii) the assigned revenue grants payable for the standard year other than the grants specifically applied to education and police services and the Local Taxation Licence Duties not passing through the Local Taxation Account;
 - (iii) the Agricultural Rates Acts Grants payable for the standard year;
 - (iv) the Health Percentage Grants payable for the standard year;
 - (v) the classification grants for Class I and Class II roads in London and county boroughs, and the maintenance grants for scheduled roads in county districts payable for the standard year;
 - (vi) an additional sum of new money amounting to £5 millions for England and Wales.

The actual total sum to be distributed will not be known until the loss of rateable value has been ascertained and the figures for the standard year are available. The new money to be included in the grant will, however, not depend in any way on the other figures, but will be fixed in advance.

APPORTIONMENT AMONG COUNTIES AND COUNTY BOROUGHS.

21. It is proposed that the whole of the new grant in aid should in the first place be apportioned among Counties and County Boroughs, this apportionment being, ultimately, according to a formula based on general characteristics, independent of actual expenditure. In deciding what characteristics should be adopted and what weight should be given to each, the aim has been so to adjust the distribution of this new revenue as to make the assistance vary with the need for local Government services in any area in relation to the ability of the area to meet the cost. After a careful examination of a wide range of possible factors, a combination of population, the proportion to the total population of children under five years of age and the rateable value per head of population has been taken as the main framework of the formula.

To these factors of general application have been added two further factors of a special character, the one to allow for the additional burden thrown upon certain areas by abnormal unemployment, and the other for the considerable variations in the cost of certain local Government services arising in administrative counties from the differing density of the population. For the first purpose the proportion of unemployed insured men to total population according to Ministry of Labour returns has been adopted, and for the second, the population per mile of public road as determined by the Ministry of Transport.

22. These factors are combined in the proposed formula so as to arrive at a "weighted population" for each County Borough and Administrative County, and, when the scheme is in full opera-

tion, the total sum available will be apportioned among the county boroughs and the administrative counties on the basis of weighted population.

Owing, however, to the very irregular distribution of the existing revenues to be replaced by the formula grant, it is considered that too great a disturbance in local finance would be caused by introducing a complete allocation on this basis at one step. It is accordingly proposed, during the first fifteen years of the scheme, to base the grant allotted to county boroughs and county councils partly on the present distribution of these revenues and partly on the formula. For the first quinquennial period the fixed annual grant will be made up of two parts. The first part will be equivalent to 75 per cent. of the loss of rates and grants in the standard year calculated as explained in paragraphs 30 and 31 below; the second part, which in total will comprise the equivalent of 25 per cent. of the loss of rates and grants and the whole of the new Exchequer money, together roughly one-third of the whole grant, will be distributed according to the formula. On each subsequent revision it is proposed that more and more of the total grant should be distributed on formula until by 1945 the whole would be distributed entirely on this basis.

23. The full formula proposed is as follows:—

(1) For each county and county borough a figure of weighted population is arrived at by increasing the population in the standard year as estimated by the Registrar-General—

(a) by the percentage by which, at the last previous Census, the number of children under 5 years of age per 1,000 of the population of the area exceeded 50, and

(b) by the percentage by which, according to the Valuation List in force on the 1st October, 1929, or on subsequent revisions of the grant in the year prior to the revision, the rateable value per head of estimated population of the area is below £10.

The population so increased is further weighted—

(c) for unemployment; the number of unemployed insured men is expressed as a percentage of total estimated population, and where this percentage, averaged over three years, exceeds $1\frac{1}{2}$ per cent., the population increased by (a) and (b) is further increased by a percentage equal to ten times the excess over $1\frac{1}{2}$ per cent.;

and in administrative counties other than London,

(d) for low density of population; where the estimated population per mile of roads is less than 100 persons, the population increased by (a) and (b) is further increased by the percentage by which the

estimated population per mile of roads is less than 200 persons, and, where the estimated population per mile of roads is 100 persons or more, by the percentage which 50 persons bears to the estimated population per mile of roads.

- (2) The total amount of the formula grant allotted to each county borough and to each administrative county will be x pence multiplied by its weighted population. (The money factor x pence will be determined by the total sum for England and Wales available for distribution on the formula basis).

As regards the elements of the formula :—

- (a) The number of children under 5 years of age per 1,000 of the population varied from 48 to 135 at the last Census, and 50 has been taken as a convenient minimum;
- (b) It is estimated that, save in very few exceptional areas, the reduced rateable value per head of population will be less than £10;
- (c) The datum figure ($1\frac{1}{2}$ per cent.) taken for the unemployment loading is considerably below the average for the country at the present time (2·2 per cent.), and in the area of heaviest unemployment the weighting factor on the average of the last three years would amount to 82 per cent.

The heavy loading proposed for unemployment of ten times the percentage above the datum figure is due to the fact that in the first quinquennial period only about one-third of the total grant will be distributed under the formula. It is proposed that at each quinquennial revision, when a larger proportion of the total grant will be distributed under the formula, the loading for unemployment should be reduced in relation to the total formula grant.

- (d) The loading for density in administrative counties will range from 5 per cent. in Middlesex to 66 per cent. in the most sparsely-populated county: and in 30 English counties the addition will exceed 25 per cent.

DISTRIBUTION TO BOROUGH AND DISTRICT COUNCILS.

24. Out of the total amount allotted to each administrative county, a grant will be made to each non-county borough and urban district council at a uniform figure per head of actual population, and to each rural district council at one-fifth of that uniform figure per head of actual population. The uniform figure will be one-half the amount ascertained by dividing the total grant allotted to all administrative counties outside London by the

aggregate actual population of the counties. The aggregate of the grants to the borough, urban and rural district councils will then be deducted from the grant appropriate to the administrative county as a whole, and the balance will be the grant payable to the county council in aid of the general county rate.

These proposals in regard to the distribution of grant within each administrative county have been framed with special reference to the very considerable changes in the incidence of rates within the county involved in the transfer of poor law and certain highways to the county councils. In the great majority of cases rural districts would, on balance, obtain a large measure of relief from this widening of the area of charge at the expense of boroughs and urban district councils, who would not only be required to bear their rateable share of the heavy expenditure on rural roads transferred to the county, but would also remain responsible for their own unclassified streets. In addition, urban authorities will be responsible for carrying on other services not ordinarily provided in rural districts. The distribution of the grant to borough and district councils on an actual population basis and the calculation of grant to the rural districts at one-fifth only of the amount per head applicable to urban districts are considered to provide an adequate differentiation between urban districts and a reasonable and equitable balance between urban and rural interests. The grant payable to borough and district councils under the distribution will ordinarily be in excess of the actual loss of district rates due to derating, and will be applied by them in aid of the total rates required to be levied in their areas.

MODIFICATION OF PROPOSALS IN FIRST QUINQUENNIAL PERIODS.

25. For the first quinquennial period grant will be paid direct to each county borough council and county council, and to each borough and district council in the county:—

- (a) A county borough council will receive a grant equivalent to 75 per cent. of the loss of rates and grants in the standard year, together with the formula grant appropriate to the weighted population of the county borough.
- (b) Each borough and urban district council within an administrative county will receive a grant at a uniform figure per head of actual population. The uniform figure will be ascertained as explained in paragraph 24.
- (c) Each rural district council will receive a grant per head of actual population at one-fifth of the uniform figure for boroughs and urban districts.
- (d) Each county council will, subject to certain minor deductions referred to in paragraph 32, receive a grant equivalent to 75 per cent. of the loss of rates and grants in the standard year of the county council and of the borough and district councils within the administrative county, together with the formula grant at the full rate on the

weighted population of the county, less the aggregate of the grants payable to the borough and district councils within the county. The grant payable to a county council will be applied in aid of the general county rate.

26. It is also proposed that in the case of any county borough or administrative county (as a whole), in which the allotted grant in aid does not exceed the aggregate loss of rates and grants in the standard year by a sum equivalent to 1/- per head of actual population of the area, the allotted grant shall be increased by such a sum as will bring the net gain up to the equivalent of 1/- per head of the population.

As regards borough and district councils within the administrative county, it would, in view of the wide variation in the present poundage of rates in any one county, be impossible to guarantee that in every area there should be a decrease of rates consequent on the introduction of the scheme. Clearly, with equalisation of certain charges throughout the county, some areas will gain and others will lose, but it is desired to spread the full financial effect of the scheme over as long a period as possible. It is, therefore, proposed that, if the calculated total rate poundage in the standard year in any county area shows an increase resulting from the scheme, a separate special grant shall be given to the area of the money equivalent of the increase. One-half of the separate special grant in each county will be found by the Exchequer and the other half by deduction from the population grant otherwise payable to the areas in the county in which the calculated rate poundage in the standard year shows a reduction resulting from the scheme. The deduction from the population grant to these areas will be proportional to the money equivalent of the rate reductions in these areas. If, in the case of any area, the appropriate deduction exceeds the population grant payable to the area, the excess will be found by the Exchequer. The special grant and the deductions from the population grant will be reduced by 1/15th each year. In this way, while certain areas will receive a substantial relief from the outset, no area will suffer an increase of rate poundage by reason of the scheme when it first comes into operation, and the necessary adjustments will be spread gradually over a period of fifteen years. For the purpose of the special grant, calculations will be made for each area showing:—

- (1) the total rate which would have been required for the expenditure of the standard year, if in that year the scheme had been in force and the rate had been levied on the basis of the reduced values shown in the Valuation List of the 1st October, 1929; and
- (2) the total rate which would have been required if in that year the rate had been levied on the basis of the unreduced values shown in the Valuation List of the 1st October, 1929, under the arrangements existing prior to the scheme coming into force.

The rates to which the scheme applies are the rates levied by Rating Authorities only, and do not include water rates or land drainage rates.

27. In the case of a rural district, the general scheme will apply to all rates except those raised for purely parochial purposes. As regards special rates, it is proposed that for the first quinquennial period rural district councils shall receive an Exchequer Grant equivalent to 75 per cent. of the loss arising in the standard year from the derating of certain of the properties on which those rates are levied, and that the remaining 25 per cent. shall be paid by the county council. With a view to providing for the development of the services the cost of which is charged upon special rates, it is also proposed that county councils shall be given a general power to contribute towards such cost.

28. As regards Joint Boards for Water, Sewerage, Hospitals, &c., it is not proposed that any Exchequer grant should be paid to the Boards. Provision will be made for a suitable revision of the basis of the contributions of the constituent authorities after October 1929 so as to enable the grant payable to the constituent authorities to be taken into account in the calculation of the contributions.

29. The total annual grant ascertained for any area in the manner explained at the inception of the scheme will be fixed for 5 years as from the 1st April, 1930, except for any alterations of area or authority during the period. If any such alterations take place, suitable adjustments of the grants payable to the areas affected will be made.

At the end of the first period of 5 years the total grant in aid will be revised. The non-formula part of the grant, *i.e.*, the part directly proportional to the loss of rates and grants in the first standard year, will be reduced by one-third and the formula part will be increased. As regards the total sum to be distributed as grant in aid for the second quinquennial period (apart from the special Exchequer grant given under the guarantee referred to in paragraph 26), it is proposed that the ratio of total Exchequer assistance in aid of local government (apart from the special grant) to the total rate-borne expenditure of the country at the beginning of the scheme should broadly be maintained. If there is any marked reduction in this ratio at the end of the first quinquennial period not due to temporary abnormal causes, further Exchequer money will be added to the total annual sum available for distribution during the second quinquennial period to enable the ratio to be restored.

The grant allotted to each county council and county borough council will be recalculated. The allocation of the formula grants will be made on the particulars of each county and county borough in a second standard year, probably 1934, the general basis of the formula remaining unchanged except that the unemployment weighting, as already explained, will require to be revised in relation to the total sum distributed under the formula. The method of distribution to the borough and district councils will remain unchanged, but the rate of grant will necessarily be recalculated.

As regards subsequent revisions of grant, similar arrangements would apply. For the third quinquennial period there would be a further transfer from the non-formula part of the grant to the formula part and for the fourth period the whole of the grant would be distributed on the formula basis.

METHOD OF CALCULATION AND ADJUSTMENT.

30. The loss of rates in the standard year for the purpose of the scheme will be calculated as follows :—

- (a) There will be ascertained the net rate-borne expenditure which would have been incurred by each spending authority (county council, county borough council, borough council, urban district council and rural district council) in the year 1928–29, on the assumption that the expenditure of the Guardians had been incurred by county councils and county borough councils and that the expenditure on the highways to be transferred to the county had been incurred by the county council and not by the borough and district councils. Where any union is only partly within a county or county borough, the expenditure of the guardians in the standard year will, for the purpose of this ascertainment, be apportioned between the parts within and without the county or county borough on the basis of the number of persons in receipt of relief normally resident in each part as ascertained at quarterly intervals during the year.
- (b) The loss of rates in the standard year for each authority will be such proportion of the net expenditure so ascertained as the loss of rateable value due to derating, as shown in the special list of derated properties in the Valuation List in force on the 1st October, 1929, bears to the total rateable value which, apart from the scheme, would have stood in the Valuation List. In the case of a county, the aggregates of the corresponding values in the Valuation Lists of all the rating authorities in the county will be taken for the purpose of ascertaining the appropriate proportion.

31. The loss of grants in the standard year will be the actual grants (for which the new scheme of grants is to be substituted), payable to each authority for the year 1928–29, subject to the following adjustments :—

- (1) The Agricultural Rates Acts Grants applicable to expenditure on the services to be transferred to the county will be treated as grant payable to the county council.
- (2) All Health Grants and Road Grants payable to authorities and to voluntary associations within an administrative county will be treated as grants payable to the county council.

- (3) Health Grants payable to voluntary associations in county boroughs will be treated as grants payable to the county borough council.
- (4) The grants to voluntary associations in aid of the welfare of the Blind will be apportioned among county councils and county borough councils according to the residence of the beneficiaries and treated as grants payable to these bodies.
- (5) The Tuberculosis Grants to the Welsh National Memorial Association will be apportioned among the county council and county borough councils of Wales according to rateable value and treated as grants payable to the councils.

32. Although all health grants payable to authorities and to voluntary agencies within a county will be treated for the purpose of ascertaining loss of grants under the scheme as if they were grants payable to the county council, it is not intended to interfere with the existing arrangements under which certain borough and district councils administer the Maternity and Child Welfare service for their area. It is proposed that a scheme for each county should be prepared by the Ministry in consultation with the county council showing the grants which will be payable by the Ministry to the borough and district councils who continue to administer the Maternity and Child Welfare service. These grants will be fixed in amount for five years and will be deducted from the grant in aid otherwise payable to the county. The scheme will also show the basis of the necessary county rate adjustment to be made between the county council and the separate maternity and child welfare districts.

As regards Maternity and Child Welfare services carried out by voluntary associations, the county council or county borough council in whose area the associations function will be responsible for the work of these bodies and for the contributions to be made to them out of the grant in aid. It is proposed that each county and county borough council should submit for the Minister's approval a statement of the contributions proposed to be made to the voluntary associations in their area and of the conditions for securing the efficient administration of the service subject to which the grants will be made.

County Councils and county borough councils will also be required to make contributions to the voluntary associations for the Blind. It is proposed that these contributions should, as at present, be made on a capitation basis in accordance with a scheme to be made by the Minister.

It is also proposed that the grants to the Welsh National Memorial Association should be made by the county and county borough councils of Wales in accordance with a scheme to be made by the Minister.

Contributions will continue to be made by county councils to borough and district councils in respect of medical officers of health and sanitary inspectors, and county and county borough councils

will be responsible for the payments to public vaccinators hitherto made by boards of guardians.

33. Any grants under the existing scheme in respect of any period prior to the 1st April, 1930, unpaid at that date, will be paid. The grants payable under the new scheme will be ascertained, so far as they depend on local assessments and rates, from returns which will be furnished by local authorities and certified by the district auditors, and will be paid in 6 instalments during the financial year. It will be necessary to withhold some small part of the grant pending certification, but the part withheld will not ordinarily exceed the remanet grant under the old scheme outstanding on the 1st April, 1930, so that local authorities will receive a full year's grant revenue under the new scheme each year. The only conditions attaching to the grant will be the compliance with the general requirements of the new scheme and the efficient administration of the local services. Provision will be made for withholding some part of the grant in the event of a reasonable standard of efficiency not being maintained.

34. The new general grant scheme will not come into force until the 1st April, 1930, but the derating provisions will operate as from the 1st October, 1929. It will be necessary, therefore, to make transitional arrangements for the compensation of authorities for the loss of rates in the period from the 1st October, 1929, to the 31st March, 1930. It is proposed that every County Council, county borough council, borough and district council, and board of guardians, should, for that period, receive a grant equivalent to the full loss of rates calculated for the second half of the standard year. The calculation will be made as explained in paragraph 30 above, except that as the local government changes will not have been made there will be no transfer or apportionment of expenditure on poor law and highway services. The grant will be payable in 3 instalments during the half-year, and, as there will probably be some delay in the ascertainment of the grant payable, payment on account will be made on the closest estimates available.

35. As an illustration of the approximate effect of the scheme, calculations have been made showing on certain assumptions what would have been the effect in certain areas if the scheme had been in operation in these areas in the year 1926-27: the grants to be withdrawn and the losses of rates are contrasted with the new grants under the scheme.

For the purpose of this illustration the loss of rates has been roughly estimated from returns recently furnished by Rating Authorities. The formula grants for counties and county boroughs which would have been payable under the scheme have been calculated on a money factor of 31.35*d.* per head of weighted population for the year 1926.

It is estimated that the aggregate of the formula grants on this basis would amount to nearly £15 million, which is roughly equivalent to 25 per cent. of the loss of rates and grants, together with £5 million new Exchequer money.

The results of these calculations are shown in the Tables at the

end of this memorandum for each of the 82 county boroughs in existence in 1926-27 and for 12 of the administrative counties. In the case of the administrative counties, figures are given showing:—

- (1) the actual rate poundage for 1926-27 for each of the boroughs and districts (442 in number) within those counties.
- (2) the estimated rate poundage which would have been required for 1926-27 under the scheme before payment of the special grant referred to in paragraph 26.
- (3) the estimated rate poundage which would have been required under the scheme after payment of the special grant.

The grants to boroughs and urban district councils have been calculated at 150 pence per head of population, and the grants to rural district councils at 90 pence per head of population.

The twelve counties have been selected as being typical, and it is believed that the working of the financial scheme in counties generally is adequately illustrated by the Tables.

The illustration is, of course, not intended to do more than give a rough picture of the position. The new Valuation Lists which, under the Rating and Valuation Act, 1925, come into force in April, 1928 or April, 1929, may affect the calculations to a considerable extent, altering, as they will, not only the proportion which the value of derated properties bears to other properties, but also the rateable value per head of population; and many sharp differences in the poundage of the rates levied in the same union for poor law purposes in 1926-27 have already disappeared under the precepting reforms effected by the Rating and Valuation Act of 1925, while the variation in the poundage of the rates levied for county purposes arising from the difference between the county rate basis and the parochial valuation lists will disappear when the first valuation lists under the Act of 1925 come into operation.

Further, where a union is situated partly in one county or county borough and partly in another, the rate-borne expenditure has been apportioned, for the purpose of the illustration, between the various parts on the basis of assessable value, and not on the basis which will be adopted when the scheme is in operation. As already explained, that basis will be the number of persons in receipt of relief normally resident in each part.

Particulars showing the numbers of persons at present in receipt of relief have, however, been obtained for 12 unions each of which is situate in more than one county or county borough, and the expenditure of these unions for the year 1926-27 has been reapportioned on the basis of these numbers. It is found that in 8 cases (excluding West Ham) this reapportionment standing alone would have resulted in rate increases in the county boroughs ranging from $1\frac{1}{4}d.$ in the £ to $1s. 5\frac{1}{2}d.$ in the £ and in three cases there would have been rate decreases in the County Boroughs ranging from $2\frac{3}{4}d.$ in the £ to $1s. 2\frac{1}{4}d.$ in the £.

In 6 of the 8 cases in which there would have been rate increases the net gain of grant under the scheme more than counterbalances the estimated rate increase.

The case of the West Ham Union is quite exceptional. If the expenditure of the Union were apportioned between the County Borough of West Ham, the County Borough of East Ham and the County of Essex according to the number of persons in receipt of relief in each part the equivalent rates for 1926-27 would have been 12s. 5 $\frac{3}{4}$ d. in West Ham, 6s. 8 $\frac{1}{2}$ d. in East Ham and 5s. 8 $\frac{1}{2}$ d. in the part of the Union in the County of Essex, as compared with a rate of 8s. 8 $\frac{3}{4}$ d. for the Union as a whole. Special arrangements will require to be made to meet the difficulties which will arise on the transfer of the poor law functions to the County Borough of West Ham, and proposals for this purpose are under consideration.

36. On the assumptions on which the illustration is based it will be seen that of the 82 county boroughs there would be only 5 in which the loss of rates and grants would have been in excess of the new grant, while in 77 the new grant would have exceeded the loss of rates and grants (in 4 by less than 1s. per head of population; in 18 by 1s. and less than 2s.; in 18 by 2s. and less than 3s.; in 18 by 3s. and less than 4s.; in 5 by 4s. and less than 5s.; and in 14 by 5s. and over).

As regards the 12 selected counties, in each case the total grant shown for the county as a whole is in excess of the loss. The illustration shows that the general effect of the scheme of distribution will be not only to mitigate very considerably the changes in the incidence of rates due to the widening of the area of charge for poor law and highways, but also to reduce the rate poundage in most districts, especially in rural districts. The year 1926-27 is, of course, an unfavourable year to take for illustrating the working of any scheme so far as the mining areas are concerned and it may be expected that in a more normal year the divergencies in the poundage of rates would be considerably less than those shown in the tables for these areas.

APPLICATION TO LONDON.

37. Certain modifications of the financial scheme will be required to meet the special circumstances of London. Poor Law will be transferred to the County Council, but not highways. The classification grants for Class I and Class II roads will, however, be absorbed in the new grant.

In view of the large measure of rate equalisation which is involved in the local government changes under the scheme, it is proposed that the present Equalisation Fund in London should be abolished as from the 1st April, 1930.

The proposals as regards grants for the first quinquennial period are as follows:—

A grant will be allotted to the administrative County equivalent to 75 per cent. of the loss of rates in the standard year of the County Councils and of the Metropolitan Borough Councils, together with the formula grant appropriate to the weighted population of the county.

Out of the grant so allotted, a grant will be payable to each Metropolitan Borough Council equivalent to 75 per cent. of its loss of rates and grants in the standard year, together with one-third of the formula grant appropriate to its weighted population without the loading for unemployment.

The aggregate of the grants payable to the Borough Councils will then be deducted from the total grant allotted to the County and the balance will be the grant payable to the County Council.

If the total grant payable to the County Council and the Borough Councils does not exceed the aggregate loss of rates and grants in the standard year by a sum equivalent to 1s. per head of actual population, the grant to the County Council will be increased by such sum as will bring the net aggregate gain up to the equivalent of 1s. per head of population.

In the ascertainment of the loss of rates in the standard year—

- (1) the rates raised for the purpose of the Equalisation Fund and the grants received from the Fund will be excluded from the calculations, and
- (2) the highway and health grants of the Borough Councils will not be treated as grants payable to the County Council as in the case of Counties outside London, but will be included in Borough Councils calculations. The grant in aid payable to the Borough Councils ascertained as explained will be in substitution for all highway and health grants.

The proposed local government changes will involve considerable alterations in the incidence of rates in London, where various special circumstances exist. It is hoped that it will be possible to introduce an arrangement analogous to that provided for non-county boroughs and county districts, by which increases in rate poundage might be avoided. But it is desired before working out the exact form of these proposals to consult further with the London County Council and the Metropolitan Borough Councils and accordingly no table in respect of London is appended to the present paper.

ESTIMATED TOTAL COST TO THE EXCHEQUER.

38. It is estimated on the calculations of 1926-27 that the additional grants to make the minimum gain to counties and county boroughs up to 1s. per head of population and the special Exchequer grants in reduction of the increases in the poundage of rates would amount to £2½ millions, so that, with the £5 millions new Exchequer money included in the formula grant, the cost of the scheme to the Exchequer over and above the equivalent of the loss of rates and grants would amount to about £7½ millions for England and Wales, including London. The corresponding cost for Scotland would amount to about £1 million, making a total for Great Britain of about £8½ millions, of which £3 millions will be charged upon the Road Fund.

COUNTY BOROUGHES.

STATEMENT showing for each County Borough the extent to which, according to the best estimate that can at present be made, the new grant mentioned in paragraph 20 of the foregoing memorandum would in the year 1926-27 have exceeded or fallen short of the loss of rates and existing grants, if the derating and Local Government changes mentioned in the memorandum had in that year been in operation.

NOTE.—The entries in this Statement must be read subject to the qualification set out on pp. 23 and 24, and are approximate only.

1 Name of County Borough.	2 Estimated loss of grants and rates expressed in pence per head of actual population.	3 Estimated population (1926).	4 Number of children under 5 years of age per 1,000 of the population.	5 Reduced rateable value, i.e., estimated rateable value per head of actual population after derating is in operation.	6 Percentage weighting for unemployment.	Grant under the Scheme.			Gain or loss under Scheme in pence per head of actual population. (Col. 9—Col. 2.)		12 Gain under Scheme per £ of reduced rateable value, with guarantee of minimum gain of 1s. per head of population.
						7 75 per cent. of loss of rates and grants in col. 2.	8 Grant in pence per head of actual population equivalent to a grant of 31 8s. pence per head of weighted population.	9 Total grant in pence per head of actual population.	10 Gain.	11 Loss.	
	Pence.			£	Percentage.	Pence.	Pence.	Pence.	Pence.	Pence.	Pence.
Barnsley	148	70,760	105	3.45	25	111	108	219	71		20.6
Barrow-in-Furness	196	70,420	108	4.9	35	147	113	260	64		13.0
Bath	128	69,000	64	6.05	—	96	53	149	21		3.4
Birkenhead	148	158,000	101	4.95	12	111	88	199	51		10.3
Birmingham	232	934,500	92	5.4	7	174	77	251	19		3.5
Blackburn	220	124,400	69	5.1	10	165	65	230	10†		2.4
Blackpool	92	88,640	59	12.05	—	69	37	106	14		1.2
Bolton	248	177,000	79	5.15	11	186	72	258	10†		2.3
Bootle	336	84,580	106	5.45	34	252	109	361	25		4.6
Bournemouth	96	90,100	58	11.3	—	72	36	108	12		1.1
Bradford	292	288,700	68	7.3	11	219	57	276	—	16†	1.6
Brighton	104	140,000	71	6.95	—	78	54	132	28		4.0

Bristol	140	383,600	83	5.3	11	105	74	179	39	31†	7.3
Burnley	212	99,600	74	5.15	7	159	66	225	13		2.5
Burton-upon-Trent	412	48,660	86	4.4	—	309	72	381	—	2.7	
Bury	228	57,040	67	5.25	8	171	62	233	5†	2.3	
Canterbury	144	24,450	79	5.35	—	108	64	172	28	5.2	
Carlisle	164	56,320	87	5.1	6	123	74	197	33	6.5	
Chester	136	41,710	87	5.6	9	102	74	176	40	7.1	
Coventry	188	127,800	92	4.2	3	141	78	219	31	7.4	
Croydon	84	205,900	76	7.2	—	63	56	119	35	4.9	
Darlington	176	70,700	91	5.7	23	132	87	219	43	7.5	
Derby	216	136,800	85	4.8	—	162	70	232	16	3.3	
Dewsbury	280	53,630	84	4.25	11	210	79	289	9†	2.8	
Dudley	176	58,930	110	3.25	33	132	120	252	76	23.4	
East Ham	160	146,600	88	3.9	6	120	78	198	38	9.7	
Eastbourne	76	56,060	48	10.15	—	57	31	88	12	1.2	
Exeter	164	60,990	72	6.95	—	123	55	178	14	2.0	
Gateshead	156	127,700	112	3.3	71	117	156	273	117	35.5	
Gloucester	140	53,050	87	5.55	14	105	78	183	43	7.7	
Great Yarmouth	168	57,760	89	4.6	16	126	85	211	43	9.3	
Grimsby	144	88,580	98	3.7	19	108	96	204	60	16.2	
Halifax	340	96,300	68	5.3	7	255	61	316	—	2.3	
Hastings	128	61,340	64	8.8	—	96	44	140	12	1.3	
Huddersfield	264	111,900	68	6.1	10	198	61	259	—	2.0	
Ipswich	156	84,140	86	5.05	7	117	74	191	35	6.9	
Kingston-upon-Hull	240	294,600	95	4.85	18	180	90	270	30	6.1	
Leeds	216	473,400	79	5.7	12	162	71	233	17	2.9	
Leicester	172	241,700	78	5.3	—	129	64	193	21	3.9	
Lincoln	184	65,980	89	4.4	16	138	85	223	39	8.8	
Liverpool	248	862,600	102	7.05	34	186	98	284	36	5.1	
Manchester	200	752,000	86	8.4	13	150	67	217	17	2.0	
Middlesbrough	208	133,600	111	4.05	42	156	125	281	73	18.0	
Newcastle-upon-Tyne	188	285,400	100	7.5	44	141	102	243	55	7.3	
Northampton	156	93,740	78	4.65	1	117	67	184	28	6.0	
Norwich	220	124,100	81	4.5	9	165	74	239	19	4.2	
Nottingham	144	268,000	84	5.7	10	108	73	181	37	6.5	
Oldham	240	143,000	74	4.5	13	180	72	252	12	2.6	
Oxford	124	56,800	66	8.45	—	93	46	139	15	1.8	
Plymouth	148	202,700	85	5.25	7	111	78	184	36	6.9	

† See note on page 29,

COUNTY BOROUGHS—continued.

1 Name of County Borough.	2 Estimated loss of grants and rates expressed in pence per head of actual population.	3 Estimated population (1936).	4 Number of children under 5 years of age per 1,000 of the population.	5 Reduced rateable value, i.e., estimated rateable value per head of actual population after detaching in operation.	6 Percentage weighting for unemployment.	Grant under the Scheme.			Gain or loss under Scheme in pence per head of actual population. (Col. 9—Col. 2.)		12 Gain under Scheme per £ of reduced rateable value, with guarantee of minimum gain of 1s. per head of population.
						7 75 per cent. of loss of rates and grants in col. 2.	8 Grant in pence per head of actual population equivalent to a grant of 31.35 pence per head of weighted population.	9 Total grant in pence per head of actual population.	10 Gain.	11 Loss.	
Portsmouth	Pence. 128	246,900	94	4.8	Percentage. 3	Pence. 96	Pence. 77	Pence. 173	Pence. 45	Pence.	Pence. 9.4
Preston	164	124,200	82	4.25	10	123	76	199	35		8.3
Reading	164	93,290	80	5.35	—	123	65	188	24		4.4
Rochdale	296	91,510	70	5.05	16	222	68	290	—	6†	2.4
Rotherham	308	70,080	108	3.85	23	231	107	338	30		7.8
St. Helens	200	110,000	110	3.15	17	150	105	255	55		17.5
Salford	260	247,400	92	4.5	11	195	83	278	18		4.0
Sheffield	236	523,400	96	3.9	27	177	100	277	41		10.5
Smethwick	228	76,940	99	3.45	20	171	100	271	43		12.5
Southampton	144	169,300	91	5.7	—	108	71	179	35		6.1
Southend-on-Sea	52	104,300	75	8.95	—	39	50	89	37		4.1
Southport	84	77,970	62	9.4	—	63	41	104	20		2.1
South Shields	196	123,900	114	4.1	51	147	136	283	87		21.2
Stockport	192	125,400	76	5.15	7	144	67	211	19		3.7
Stoke-on-Trent	240	275,600	106	3.25	21	180	106	286	46		14.2
Sunderland	160	163,800	113	3.9	40	120	126	246	86		22.1

Tynemouth	196	66,560	105	4.1	50	147	126	273	77	18.8
Wakefield	200	53,830	82	5.35	12	150	74	224	24	4.5
Wallasey	132	93,050	75	7.2	12	99	63	162	30	4.2
Walsall	152	102,100	105	3.2	28	114	111	225	73	22.8
Warrington	264	77,280	101	4.15	14	198	93	291	27	6.5
West Bromwich	164	79,920	108	2.95	20	123	108	231	67	22.7
West Ham	316	315,900	106	3.45	27	237	110	347	31	9.0
West Hartlepool	180	71,060	107	3.65	52	135	132	267	87	23.8
Wigan	132	83,620	101	3.95	44	99	118	217	85	21.5
Wolverhampton	164	130,350	98	4.8	22	123	95	218	54	11.2
Worcester	160	50,660	79	5.1	11	120	72	192	32	6.3
York	140	86,290	79	4.5	7	105	72	177	37	8.2
WALES.										
Cardiff	176	225,700	89	6.35	24	132	83	215	39	6.1
Merthyr Tydfil	204	80,690	105	2.6	82	153	162	315	111	42.7
Newport (Mon.)	180	96,620	99	5.6	25	135	95	230	50	8.9
Swansea	232	163,200	94	4.5	29	174	98	272	40	8.9

† In any case in which the excess of the grant-in-aid under the scheme over the loss of rates and grants in the standard year is less than the equivalent of 1s. per head of actual population, the grant will be increased by such a sum as will bring the net gain up to 1s. per head of population, as explained in paragraph 26.

ADMINISTRATIVE COUNTY OF DORSET.

STATEMENT showing—

- (1) the estimated grant allotted to the County under the Scheme, and
 (2) the poundage of the rates levied in the year 1926-27 in the several Rating Areas in the County and, according to the best estimate that can be made, the poundage that would have been levied in that year under the Scheme.

Estimated Population (1926).	Estimated aggregate loss of grants and rates (in pence per head of population of the County).	Total Grant in aid (in pence per head of population of the County).	Gain to the County under the scheme (in pence per head of population of the County).
1.	2.	3.	4.
	County Council 237·9	75 per cent. of total in Column 2 ... 191·1	
	Borough and Urban District Councils ... 12·7	Formula Grant— On population weighted for children and rateable value 65·8	
	Rural District Councils ... 4·1	For density weighting ... 33·5	
		For unemployment weighting ... —	
		99·3	
232,500	Total ... 254·7	Total ... 290·4	35·7

Borough or District.	Poundage of rates for 1926-27.	Estimated poundage of rates for 1926-27 under the scheme before payment of special grant.	Estimated poundage of rates for 1926-27 under the scheme after payment of special grant.
5.	6.	7.	8.
<i>Boroughs—</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
Blandford Forum ...	9 10	10 4½	9 10
Bridport	12 6	12 6½	12 6
<i>Dorchester—</i>			
All Saints No. 1 District	12 3	12 11¼	12 3
All Saints No. 2 District	12 2	12 10¼	12 2
St. Peter No. 1 District	12 3	12 10¼	12 3
St. Peter No. 2 District	12 2	12 9¼	12 2

In the case of the rural districts the poundage covers the whole of the rates levied in 1926-27, with the exception of those then levied to meet purely parochial charges. The excluded parochial rates ranged in different parishes from about 2½*d.* to about 4*s.* 2*d.*

DORSET—(continued).

Borough or District.	Poundage of rates for 1926-27.	Estimated poundage of rates for 1926-27 under the scheme before payment of special grant.	Estimated poundage of rates for 1926-27 under the scheme after payment of special grant.
5.	6.	7.	8.
<i>Boroughs (contd.)—</i>			
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
Lyme Regis	14 5	15 5	14 5
Poole	14 7	14 4	14 4½
Shaftesbury	10 2	10 6½	10 2
Wareham	11 2	10 5½	10 7½
Weymouth and Melcombe Regis ..	18 0	18 9½	18 0
<i>Urban Districts—</i>			
Portland	13 5	12 7½	12 9½
Sherborne	14 4	13 6½	13 8½
Swanage	11 8	12 7½	11 9
Wimborne Minster ...	10 10	11 9½	10 10
<i>Rural Districts—</i>			
Beaminster	10 1½	9 8½	9 9
Blandford	9 7½	9 4½	9 4½
Bridport	12 5½	9 6½	10 0½
Cerne	9 9½	9 2	9 3½
Dorchester	9 9½	8 10	9 0
Poole	10 7½	9 8	9 5½
Shaftesbury	10 10½	9 2	9 5½
Sherborne	11 10	9 0	9 6
Sturminster	9 0	9 5½	9 0
Wareham and Purbeck	11 4½	9 0	9 4½
Weymouth	9 11½	8 11½	9 1½
Wimborne and Cranborne	10 8	9 2	9 5½

ADMINISTRATIVE COUNTY OF DURHAM.

STATEMENT showing—

- (1) the estimated grant allotted to the County under the Scheme, and
 (2) the poundage of the rates levied in the year 1926-27 in the several Rating Areas in the County and, according to the best estimate that can be made, the poundage that would have been levied in that year under the Scheme.

Estimated Population (1926).	Estimated aggregate loss of grants and rates (in pence per head of population of the County).	Total Grant in aid (in pence per head of population of the County).	Gain to the County under the scheme (in pence per head of population of the County).
1.	2.	3.	4.
	County Council 291·0	75 per cent. of total in Column 2 ... 250·9	
	Borough and Urban District Councils ... 33·2	Formula Grant— On population weighted for children and rateable value 92·9	
	Rural District Councils ... 10·8	For density weighting ... 10·5	
		For unemployment weighting ... 34·4	
		137·8	
996,700	Total ... 334·5	Total ... 388·7	54·2

Borough or District.	Poundage of rates for 1926-27.	Estimated poundage of rates for 1926-27 under the scheme before payment of special grant.	Estimated poundage of rates for 1926-27 under the scheme after payment of special grant.
5.	6.	7.	8.
<i>Boroughs—</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
Durham	23 6	20 7	21 1½
Hartlepool	18 8	22 10	18 8
Jarrow	19 11	20 9½	19 11
<i>Stockton-on-Tees—</i>			
No. 1 Area	18 10	21 9½	18 10
No. 2 Area	17 10	20 9½	17 10

In the case of the rural districts the poundage covers the whole of the rates levied in 1926-27, with the exception of those then levied to meet purely parochial charges. The excluded parochial rates ranged in different parishes from about 2½*d.* to about 8*s.* 5*d.*

DURHAM—(continued).

Borough or District.	Poundage of rates for 1926-27.	Estimated poundage of rates for 1926-27 under the scheme before payment of special grant.	Estimated poundage of rates for 1926-27 under the scheme after payment of special grant.
5.	6.	7.	8.
<i>Urban Districts—</i>			
Annfield Plain—	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
Kyo	25 2	20 9½	21 8
Collierley and Pontop	24 8	20 6½	21 4½
Greencroft Within	23 10	20 1½	20 10
Barnard Castle	13 8	16 9½	13 8
Benfieldside	24 0	19 0½	20 0½
Billingham	13 0	19 7½	13 0
Bishop Auckland ..	25 0	18 11	20 1½
Blaydon—			
Chopwell	28 0	21 5½	22 8½
Winlaton	27 8	21 5½	22 8
Stella	27 4	21 3½	22 5½
Brandon and Byshottles	25 8	20 6	21 6
Chester-le-Street	29 8	23 2½	24 5½
Consett	23 0	21 2	21 6½
Crook	26 1	17 10½	19 5½
Felling	24 8	20 11	21 7½
Hebburn	20 5	23 2½	20 5
Hetton	21 4	19 10½	20 1½
Houghton-le-Spring	21 10	21 2½	21 4
Leadgate	24 4	19 8½	20 7½
Ryton	24 4	18 3½	19 5½
Seaham Harbour	23 10	23 4	23 5½
Schildon—			
Schildon	24 0	17 4	18 7½
E. Thickley	24 2	18 5½	19 7
Southwick-on-Wear	19 8	20 1½	19 8
Spennymoor—			
Whitworth	26 2	19 10	21 0½
Mornington Lane...	27 0	21 10	22 10
Low Spennymoor	26 4	20 4	21 6
Tudhoe	26 8	20 10	21 11½
Stanhope	15 0	17 1½	15 0
Stanley—			
No. 1 District	23 0	18 1½	19 1½
No. 2 District	22 8	17 10½	18 10
Tanfield	23 6	19 2	20 0
Tow Law—			
Tow Law	14 4	13 5½	13 7½
South Cornsay	20 8	13 5½	14 10½
Washington—			
Barnston	21 11	18 4½	19 0½
Washington	27 2	20 11½	22 1½
Usworth	27 8	20 11½	22 3
Whickham	23 8	20 1½	20 9½
Willington—			
Willington	22 8	19 4½	20 0
Stockley	22 8	19 3½	19 11½

DURHAM—(continued).

Borough or District.	Poundage of rates for 1926-27.	Estimated poundage of rates for 1926-27 under the scheme before payment of special grant.	Estimated poundage of rates for 1926-27 under the scheme after payment of special grant.
5.	6.	7.	8.
<i>Rural Districts—</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
Auckland	21 10½	16 8	17 8½
Barnard Castle	14 4½	17 2½	14 4½
Chester-le-Street	22 10½	18 6½	19 5
Darlington	12 0½	16 7½	12 0½
Durham	23 2½	18 5	19 4
Easington	19 3½	18 11½	19 0½
Hartlepool	14 8½	16 7½	14 8½
Houghton-le-Spring	19 3½	18 1½	18 4½
Lanchester	22 10½	18 0½	18 10½
Sedgefield	18 3½	17 8½	17 10
South Shields	17 7½	17 9½	17 7½
Stockton	13 8½	16 8	13 8½
Sunderland	16 10	18 0½	16 10
Weardale	13 1½	17 8	13 1½

ADMINISTRATIVE COUNTY OF ESSEX.

STATEMENT showing—

- (1) the estimated grant allotted to the County under the Scheme, and
 (2) the poundage of the rates levied in the year 1926-27 in the several Rating Areas in the County and, according to the best estimate that can be made, the poundage that would have been levied in that year under the Scheme.

Estimated Population (1926).	Estimated aggregate loss of grants and rates (in pence per head of population of the County).	Total Grant in aid (in pence per head of population of the County).	Gain to the County under the scheme (in pence per head of population of the County).
1.	2.	3.	4.
	County Council 128.3	75 per cent. of total in Column 2 ... 117.1	
	Borough and Urban District Councils ... 23.9	Formula Grant— On population weighted for children and rateable value 68.6	
	Rural District Councils ... 3.9	For density weighting ... 13.6	
		For Unemployment weighting ... —	
		82.2	
997,800	Total ... 156.1	Total ... 199.3	43.2

Borough or District.	Poundage of rates for 1926-27.	Estimated poundage of rates for 1926-27 under the scheme before payment of special grant.	Estimated poundage of rates for 1926-27 under the scheme after payment of special grant.
5.	6.	7.	8.
<i>Boroughs—</i>			
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
Chelmsford	11 6	13 7½	11 6
Colchester	18 11	17 4¼	17 7
Harwich	17 10	18 8	17 10
Ilford	15 6	16 3½	15 6
Leyton*	22 4	16 0¼	16 11
<i>Maldon—</i>			
St. Peter	15 8	14 11	15 0¼
All Saints	14 10	14 1	14 2½
St. Mary's	16 4	15 7	15 8½
Saffron Walden	13 0	11 9½	11 11½

In the case of the rural districts the poundage covers the whole of the rates levied in 1926-27, with the exception of those then levied to meet purely parochial charges. The excluded parochial rates ranged in different parishes from about 3½d. to about 6s. 6½d.

* See note on p. 36.

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D

ESSEX—(continued).

Borough or District.	Poundage of rates for 1926-27.	Estimated poundage of rates for 1926-27 under the scheme before payment of special grant.	Estimated poundage of rates for 1926-27 under the scheme after payment of special grant.
5.	6.	7.	8.
<i>Urban Districts—</i>			
Barking Town ...	<i>s. d.</i> 17 8	<i>s. d.</i> 19 8½	<i>s. d.</i> 17 8
Braintree	13 9	14 7½	13 9
Brentwood	12 2	12 4½	12 2
Brightlingsea ...	14 8	14 9½	14 8
Buckhurst Hill ...	11 2	12 9	11 2
Burnham-on-Crouch	15 6	13 6½	13 10
Canvey Island ...	13 8	14 9½	13 8
Chingford	11 5	10 4	10 5½
Clacton	13 3	15 0½	13 3
Dagenham	13 0	14 4½	13 0
Epping	13 0	13 5½	13 0
Frinton-on-Sea ...	12 8	15 6	12 8
Grays Thurrock ...	15 2	16 9	15 2
Halstead	15 8	14 5½	14 6½
Hornchurch	13 0	14 2½	13 0
Loughton	12 0	13 6½	12 0
Romford	14 10	15 6½	14 10
Shoeburyness ...	11 6	12 10	11 6
Tilbury	15 8	18 3	15 8
Waltham Holy Cross	16 6	16 8½	16 6
Walthamstow* ...	25 3	18 7½	19 6½
Walton-on-the-Naze	14 10	17 5½	14 10
Wanstead*	18 4	13 4½	14 1
West Mersea	16 10	14 0½	14 5
Witham	15 4	15 7½	15 4
Wivenhoe	15 2	15 1½	15 1½
Woodford*	19 4	12 10½	13 9½
<i>Rural Districts—</i>			
Belchamp	12 11½	9 7½	10 1
Billericay	9 9½	9 9	9 9
Braintree	12 6½	10 2½	10 6½
Bumpstead	12 9½	9 11½	10 4½
Chelmsford	12 5½	9 10	10 2½
Dunmow	12 7	10 1	10 5½
Epping	9 1½	10 0	9 1½
Halstead	12 8½	10 0½	10 5
Lexden and Winstree	10 11½	9 10	10 0
Maldon	12 0½	10 2½	10 5½
Ongar	11 10	10 5½	10 8
Orsett	9 7½	11 4½	9 7½
Rochford	12 8½	11 2	11 4½
Romford	11 4½	9 11½	10 1½
Saffron Walden—			
Saffron Walden			
Union	10 5	9 7½	9 8½
Linton Union ...	11 8½	9 7½	9 10
Stansted	9 5½	9 11½	9 5½
Tending	10 2½	9 9½	9 10½

* The expenditure of the West Ham Union, of which these areas are part, has for the purpose of columns 7 and 8 been apportioned between the County Borough of West Ham, the County Borough of East Ham, and the County of Essex on the basis of the number of persons in receipt of relief in each part (*vide* paragraph 35 of the memorandum).

ADMINISTRATIVE COUNTY OF LANCASTER.

STATEMENT showing—

- (1) the estimated grant allotted to the County under the Scheme, and
- (2) the poundage of the rates levied in the year 1926-27 in the several Rating Areas in the County and, according to the best estimate that can be made, the poundage that would have been levied in that year under the Scheme.

Estimated Population (1926).	Estimated aggregate loss of grants and rates (in pence per head of population of the County).	Total Grant in aid (in pence per head of population of the County).	Gain to the County under the scheme (in pence per head of population of the County).
1.	2.	3.	4.
	County Council 164.8	75 per cent. of total in Column 2 ... 186.4	
	Borough and Urban District Councils ... 82.0	Formula Grant:—	
	Rural District Councils ... 1.7	On population weighted for children and rateable value 67.4	
		For density weighting ... 8.6	
		For Unemployment weighting ... 1.3	
		77.3	
1,789,700	Total ... 248.5	Total ... 263.7	15.2

Borough or District.	Poundage of rates for 1926-27.	Estimated poundage of rates for 1926-27 under the scheme before payment of special grant.	Estimated poundage of rates for 1926-27 under the scheme after payment of special grant.
5.	6.	7.	8.
<i>Boroughs—</i>			
Accrington	s. d. 11 0	s. d. 11 6½	s. d. 11 0
Aahton-under-Lyne ..	12 8	13 0½	12 8
Bacup	14 8	16 2½	14 8
Chorley	12 8	13 8	12 8
Clitheroe	12 6	12 7½	12 6
Colne	15 0	16 0½	15 0
Darwen	11 8	11 1½	11 4
Eccles	13 0	13 1½	13 0
Haslingden	12 4	13 8½	12 4
Heywood	13 8	15 10½	13 8
Lancaster	11 2	11 6½	11 2
Leigh	12 6	14 1½	12 6

In the case of the rural districts the poundage covers the whole of the rates levied in 1926-27, with the exception of those then levied to meet purely parochial charges. The excluded parochial rates ranged in different parishes from about 1½d. to about 8s. 8d.

LANCASTER—(continued).

Borough or District.	Poundage of rates for 1926-27.	Estimated poundage of rates for 1926-27 under the scheme before payment of special grant.	Estimated poundage of rates for 1926-27 under the scheme after payment of special grant.
5.	6.	7.	8.
<i>Boroughs (contd.)—</i>			
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
Lytham St. Annes ...	9 6	11 3½	9 6
Middleton	15 0	17 9½	15 0
Morecambe	13 9	14 5½	13 9
Mossley—			
Mossley	10 9	11 11½	10 9
Micklehurst	8 0	9 1½	8 0
Nelson	13 0	13 11½	13 0
Rawtenstall—			
Central Ward	12 4	13 9	12 4
Remainder	12 2	13 7	12 2
Widnes	14 4	13 7½	13 11
<i>Urban Districts—</i>			
Abram	14 0	12 8½	12 11½
Adlington	11 0	9 10	10 3½
Ashton-in-Makerfield	13 6	11 0½	12 0½
Aspull	13 8	8 4½	10 6½
Atherton	11 2	12 2½	11 2
Audenshaw	12 0	11 11½	11 11½
Barrowford	12 0	11 8	11 9½
Billinge & Winstanley	12 8	9 8½	10 10½
Blackrod	13 9	10 7½	11 10½
Brierfield	9 10	9 2½	9 5½
Carnforth	10 0	10 0½	10 0
Chadderton	12 6	16 3	12 6
Church	11 2	10 0½	10 5½
Clayton-le-Moors	12 2	10 4½	11 1½
Crompton	12 2	14 11½	12 2
Croston	12 9	10 2½	11 2½
Dalton-in-Furness	12 0	9 11	10 9
Denton	12 11	12 4	12 6½
Droylesden	15 6	15 8½	15 6
Failsworth	13 8	12 7½	13 0½
Farnworth	13 4	13 0½	13 2
Fleetwood	9 8	10 8½	9 8
Formby	11 2	11 8½	11 2
Fulwood	10 0	9 8	9 9½
Golborne	11 9	9 11½	10 8
Grange	11 4	11 7	11 4
Gt. Crosby	12 4	9 9½	10 9½
Gt. Harwood	11 8	10 4½	10 10½
Haydock	15 6	7 5½	10 8½
Heysham	11 4	12 1½	11 4
Hindley	15 0	12 8½	13 4½
Horwich	13 4	13 0	13 1½
Hurst		(Now transferred to Ashton-under-Lyne B.)	
Huyton-with-Roby	11 4	10 4½	10 9
Ince-in-Makerfield	14 4	12 7½	13 3½
Irlam	9 8	11 7	9 8

LANCASTER—(continued).

Borough or District.	Poundage of rates for 1926-27.	Estimated poundage of rates for 1926-27 under the scheme before payment of special grant.	Estimated poundage of rates for 1926-27 under the scheme after payment of special grant.
5.	6.	7.	8.
<i>Urban Districts (contd.)—</i>			
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
Kearsley	11 10	9 1½	10 2½
Kirkham	8 6	8 10½	8 6
Lathom and Burs-			
cough	9 0	7 8	8 2½
Lees	11 8	13 7	11 8
Leyland	9 6	9 11	9 6
Litherland	13 3	9 7½	11 0½
Littleborough	10 8	9 11½	10 3
Little Crosby	12 8	8 9½	10 4½
Little Hulton... ..	12 2	9 4	10 5½
Little Lever	18 4	11 2½	12 0½
Longridge—			
Dilworth	10 8	10 8½	10 8
Alston	9 11	10 0½	9 11
Milnrow	11 6	11 6½	11 6
Newton-in-Makerfield	18 5	11 0½	12 0
Norden	12 0	11 3	11 6½
Ormskirk	9 8	9 6½	9 7½
Orrell	12 0	8 6½	9 11½
Oswaldtwistle	12 11	10 1½	11 3
Padibam	12 4	12 0	12 1½
Poulton-le-Fylde	8 6	9 7	8 6
Preesall	9 4	9 0½	9 1½
Prescot	18 6	12 8½	12 9
Prestwich	11 6	9 7½	10 4½
Radcliffe	11 2	12 9½	11 2
Rainford	12 2	7 7½	9 5½
Ramsbottom—			
Central Ward	11 0	11 10½	11 0
Remainder	10 10	11 8½	10 10
Rishton	10 4	10 10½	10 4
Royton	11 2	12 6½	11 2
Skelmersdale	11 8	7 6½	9 2
Standish - with - Lang-			
tree	10 8	7 9½	8 11½
Stretford	10 6	11 10½	10 6
Swinton and Pendle-			
bury—			
Swinton St. Peter	12 0	12 2½	12 0
Swinton Remainder	11 9	11 10½	11 8
Pendlebury	14 10	11 10½	13 0½
Thornton Cleveleys ..	8 10	10 5½	8 10
Tottington	11 10	11 5½	11 7½
Trawden	12 0	7 9	9 5½
Turton	12 2	11 2½	11 7½
Tyldesley - with - Sha-			
kerley	10 4	9 10½	10 1
Ulverston	12 0	10 5½	11 0½
Upholland	14 0	12 4	13 0
Urmston	10 6	9 1	9 11½

LANCASTER—(continued).

Borough or District.	Poundage of rates for 1926-27.	Estimated poundage of rates for 1926-27 under the scheme before payment of special grant.	Estimated poundage of rates for 1926-27 under the scheme after payment of special grant.
5.	6.	7.	8.
<i>Urban Districts (contd.)—</i>			
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
Walton-le-Dale ...	10 0	10 1½	10 0
Wardle ...	10 4	9 4½	9 9
Waterloo - with - Sea - forth—			
Waterloo	12 7	9 5½	10 8½
Seaforth	12 11	9 9½	11 0½
Westhoughton ...	18 4	11 11	12 6
Whitefield	12 6	13 2	12 6
Whitworth	11 4	11 2½	11 3½
Withnell	12 10	12 7½	12 8½
Worsley	10 0	10 2½	10 0
<i>Rural Districts—</i>			
Barton-upon-Irwell ...	7 7½	8 8	7 7½
Blackburn	8 9½	7 5½	7 11
Burnley	8 8½	7 1	7 6½
Bury	7 6½	7 4½	7 5
Chorley	8 6	7 6½	7 11
Clitheroe	8 3½	7 3½	7 8½
Fylde	7 4½	7 3½	7 4
Garstang	8 5	7 8½	7 8½
Lancaster	8 1½	7 5½	7 8½
Leigh	8 5	7 8½	7 11½
Limehurst	8 4½	7 6	7 10
Lunesdale	9 0	7 5	7 9½
Preston	8 0½	7 7½	7 9½
Sefton	10 10	7 9½	8 1
Ulverston	9 8	7 4½	8 0½
Warrington	10 4½	7 2½	7 8½
West Lancashire ...	8 1	7 6½	7 9
Whiston	9 5	7 11½	8 5½
Wigan	10 2½	7 5½	8 0

**ADMINISTRATIVE COUNTY OF LINCOLN—
PARTS OF LINDSEY.**

STATEMENT showing—

- (1) the estimated grant allotted to the County under the Scheme, and
(2) the poundage of the rates levied in the year 1926-27 in the several Rating Areas in the County and, according to the best estimate that can be made, the poundage that would have been levied in that year under the Scheme.

Estimated Population (1926).	Estimated aggregate loss of grants and rates (in pence per head of population of the County).	Total Grant in aid (in pence per head of population of the County).	Gain to the County under the scheme (in pence per head of population of the County).
1.	2.	3.	4.
	County Council 385.5	75 per cent. of total in Column 2 ... 310.4	
	Borough and Urban District Councils ... 20.6	Formula Grant:—	
	Rural District Councils ... 7.7	On population weighted for children and rateable value 80.9	
		For density weighting ... 49.8	
		For Unemployment weighting —	
		130.7	
261,600	Total ... 413.8	Total ... 441.1	27.3

Borough or District.	Poundage of rates for 1926-27.	Estimated poundage of rates for 1926-27 under the scheme before payment of special grant.	Estimated poundage of rates for 1926-27 under the scheme after payment of special grant.
5.	6.	7.	8.
<i>Borough—</i>			
Louth	s. d. 13 0	s. d. 14 1	s. d. 13 0
<i>Urban Districts—</i>			
Alford	14 2	14 4½	14 2
Barton-upon-Humber ...	10 4	9 2	9 5½
Brigg	11 6	12 8½	11 6
Cleethorpes	17 6	15 0½	15 8
	15 0½	12 7	13 2½
Crowle	17 4	10 0½	11 11½
Gainsborough	13 3	14 8½	13 3
Horncastle	13 8	12 9½	13 0

In the case of the rural districts the poundage covers the whole of the rates levied in 1926-27, with the exception of those then levied to meet purely parochial charges. The excluded parochial rates ranged in different parishes from about 3d. to about 4s. 0½d.

LINCOLN—(continued).

Borough or District.	Poundage of rates for 1926-27.	Estimated poundage of rates for 1926-27 under the scheme before payment of special grant.	Estimated poundage of rates for 1926-27 under the scheme after payment of special grant.
5.	6.	7.	8.
<i>Urban Districts</i>			
<i>(contd.)—</i>			
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
Mablethorpe and Sutton	{ 12 8 15 2 14 0 19 0	{ 13 4½ 15 10½ 14 8½ 17 4½	{ 12 8 15 2 14 0 17 9½
Market Rasen	12 2	12 7	12 2
Roxby-cum-Risby	10 10	14 2½	10 10
Scunthorpe and Frodingham	12 0	13 10½	12 0
Skegness	16 0	18 7½	16 0
Winterton	{ 14 4 15 6	{ 11 0 12 2	{ 11 10½ 13 0½
Woodhall Spa	12 6	12 6½	12 6
<i>Rural Districts—</i>			
Caistor	12 5½	9 7	10 4
Gainsborough	11 9½	9 9	10 3½
Glanford Brigg	12 2½	10 0	10 6½
Grimby	13 2½	10 7½	11 3
Horncastle	10 11½	10 1½	10 4
Isle of Axholme	{ 10 9½ 13 3	{ 9 1½ 9 1½	{ 9 6½ 10 2½
Louth	9 7	9 11½	9 7
Sibsey	12 7½	9 8	10 5
Spilsby	10 2	10 6½	10 2
Welton	14 11½	10 0	10 11½

ADMINISTRATIVE COUNTY OF NOTTINGHAM.

STATEMENT showing—

- (1) the estimated grant allotted to the County under the Scheme, and
 (2) the poundage of the rates levied in the year 1926-27 in the several Rating Areas in the County and, according to the best estimate that can be made, the poundage that would have been levied in that year under the Scheme.

Estimated Population (1926).	Estimated aggregate loss of grants and rates (in pence per head of population of the County.)	Total Grant in aid (in pence per head of population of the County.)	Gain to the County under the scheme (in pence per head of population of the County).
1.	2.	3.	4.
	County Council 195·2	75 per cent. of total in Column 2 ... 173·3	
	Borough and Urban District Councils ... 31·2	Formula Grant:— On population weighted for children and rateable value... 80·6	
	Rural District Councils ... 4·7	For density weighting ... 19·6	
		For unemployment weighting ... —	
		100·2	
398,900	Total ... 231·1	Total ... 273·5	42·4

Borough or District.	Poundage of rates for 1926-27.	Estimated poundage of rates for 1926-27 under the scheme before payment of special grant.	Estimated poundage of rates for 1926-27 under the scheme after payment of special grant.
5.	6.	7.	8.
<i>Boroughs—</i>			
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
East Retford ...	12 4	14 3½	12 4
Mansfield ...	15 2	14 11½	14 11½
Newark ...	11 11	14 2½	11 11
<i>Urban Districts—</i>			
Arnold ...	17 10	15 0½	15 6½
Beeston ...	16 3	14 2½	14 7
Carlton ...	16 0	13 2½	13 8½
Eastwood ...	13 10	11 4½	11 9½
Hucknall ...	18 10	15 6½	16 1½
Huthwaite ...	14 0	12 11	13 1½
Kirkby-in-Ashfield	14 2	11 10½	12 3

In the case of the rural districts the poundage covers the whole of the rates levied in 1926-27, with the exception of those then levied to meet purely parochial charges. The excluded parochial rates ranged in different parishes from about 1½d. to about 5s. 0½d.

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E

NOTTINGHAM—(continued).

Borough or District.	Poundage of rates for 1926-27.	Estimated poundage of rates for 1926-27 under the scheme before payment of special grant.	Estimated poundage of rates for 1926-27 under the scheme after payment of special grant.
5.	6.	7.	8.
<i>Urban Districts (contd.)—</i>			
Mansfield Woodhouse	<i>s. d.</i> 15 0	<i>s. d.</i> 13 0	<i>s. d.</i> 13 4
Sutton-in-Ashfield ...	15 8	14 3½	14 6½
Warsop	11 8	11 4	11 4½
West Bridgeford ...	14 5	13 0½	13 3½
Worksop	20 9	18 7½	18 11½
<i>Rural Districts—</i>			
Basford	10 11½	9 7½	9 9½
Bingham—			
1. Bingham Union	8 6½	9 5½	8 6½
2. Melton Mowbray Union ...	9 1½	9 5½	9 1½
East Retford—			
1. Doncaster Union	11 6½	9 1½	9 6½
2. East Retford Union ...	7 8	9 1½	7 8
Leake	8 10	9 7½	8 10
Misterton	9 7	9 2½	9 3½
Newark	8 6½	9 2½	8 6½
Skegby	12 11½	10 0½	10 6
Southwell	8 11	9 10½	8 11
Stapleford	7 7½	9 6	7 7½
Worksop	14 5½	11 3½	11 9½
Kingston and Ratcliffe - on - Soar } Parishes			
		(Now transferred to Leake Rural District.)	

ADMINISTRATIVE COUNTY OF WEST SUFFOLK.

STATEMENT showing—

- (1) the estimated grant allotted to the County under the Scheme, and
- (2) the poundage of the rates levied in the year 1926-27 in the several Rating Areas in the County and, according to the best estimate that can be made, the poundage that would have been levied in that year under the Scheme.

Estimated Population (1926).	Estimated aggregate loss of grants and rates (in pence per head of population of the County.)	Total Grant in aid (in pence per head of population of the County).	Gain to the County under the scheme (in pence per head of population of the County).
1.	2.	3.	4.
	County Council 267·1	75 per cent. of total in Column 2 ... 208·0	
	Borough and Urban District Councils ... 7·1	Formula Grant:— On population weighted for children and rateable value 72·6	
	Rural District Councils ... 3·1	For density weighting ... 42·1	
		For unemployment weighting ... —	
		114·7	
108,260	Total ... 277·3	Total ... 322·7	45·4

Borough or District.	Poundage of rates for 1926-27.	Estimated poundage of rates for 1926-27 under the scheme before payment of special grant.	Estimated poundage of rates for 1926-27 under the scheme after payment of special grant.
5.	6.	7.	8.
<i>Boroughs—</i>			
Bury St. Edmunds ...	<i>s. d.</i> 12 9	<i>s. d.</i> 11 11	<i>s. d.</i> 12 0½
<i>Sudbury—</i>			
St. Peter, &c. ...	20 3	18 7½	18 10½
Ballington cum Brandon ...	18 10	17 5½	17 8½
<i>Urban Districts—</i>			
Glensford	15 7	9 11½	10 11
<i>Hadleigh—</i>			
No. 1 District ...	16 4	13 1½	13 8
No. 2 District ...	17 8	14 5½	15 0
Haverhill	17 6	15 6½	15 10½

In the case of the rural districts the poundage covers the whole of the rates levied in 1926-27, with the exception of those then levied to meet purely parochial charges. The excluded parochial rates ranged in different parishes from about 4*d.* to about 4*s.* 1*d.*

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WEST SUFFOLK--(continued).

Borough or District.	Poundage of rates for 1926-27.	Estimated poundage of rates for 1926-27 under the scheme before payment of special grant.	Estimated poundage of rates for 1926-27 under the scheme after payment of special grant.
5.	6.	7.	8.
<i>Urban Districts (contd.)—</i>			
<i>Newmarket—</i>			
Exning	15 8	17 6½	15 8
Newmarket All			
Saints	15 0	16 9½	15 0
<i>Rural Districts—</i>			
Brandon	12 7½	11 2½	11 5½
Clare	14 0½	11 5	11 10½
Cosford	13 11	11 7½	12 0½
Melford	13 0½	11 5½	11 8½
Mildenhall	8 2½	11 1½	8 2½
Moulton	14 1	12 7½	12 10½
The wastre	16 4½	12 3	12 11½
Thingoe	13 4½	11 4	11 8

ADMINISTRATIVE COUNTY OF SURREY.

STATEMENT showing—

- (1) the estimated grant allotted to the County under the Scheme, and
 (2) the poundage of the rates levied in the year 1926-27 in the several Rating Areas in the County and, according to the best estimate that can be made, the poundage that would have been levied in that year under the Scheme.

Estimated Population (1926).	Estimated aggregate loss of grants and rates (in pence per head of population of the County).	Total Grant in aid (in pence per head of population of the County).	Gain to the County under the scheme (in pence per head of population of the County).
1.	2.	3.	4.
	County Council 90.41	75 per cent. of total in Column 2 ... 84.43	
	Borough and Urban District Councils ... 20.65	Formula Grant:— On population weighted for children and rateable value 50.47	
	Rural District Councils ... 1.51	For density weighting ... 7.68	
		For unemployment weighting —	
		58.15	
781,400	Total ... 112.57	Total ... 142.58	30.01

Borough or District.	Poundage of rates for 1926-27.	Estimated poundage of rates for 1926-27 under the scheme before payment of special grant.	Estimated poundage of rates for 1926-27 under the scheme after payment of special grant.
5.	6.	7.	8.
<i>Boroughs—</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
Godalming ...	12 0	11 7½	11 8
Guildford ...	11 8	11 9	11 8
Kingston - upon - Thames ...	11 2	10 5½	10 7½
Reigate ...	10 10	10 9½	10 9½
<i>Richmond—</i>			
Kew ...	9 4	9 10½	9 4
North Sheen ...	9 8	9 9½	9 8
Petersham ...	9 7	10 2	9 7
Richmond ...	8 1	8 10½	8 1
Wimbledon ...	11 2	10 11½	11 0

In the case of the rural districts the poundage covers the whole of the rates levied in 1926-27, with the exception of those then levied to meet purely parochial charges. The excluded parochial rates ranged in different parishes from about 2½d. to about 8s. 7½d.

SURREY—(continued).

Borough or District.	Poundage of rates for 1926-27.	Estimated poundage of rates for 1926-27 under the scheme before payment of special grant.	Estimated poundage of rates for 1926-27 under the scheme after payment of special grant.
5.	6.	7.	8.
<i>Urban Districts—</i>			
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
Barnes—			
Barnes	10 6	11 4	10 6
Mortlake	10 4	11 1½	10 4
Beddington and Wallington—			
Beddington	10 4	10 3½	10 4
Wallington	10 6	10 5½	10 5½
Carshalton	9 5	9 10	9 5
Caterham	10 3	9 1½	9 4½
Chertsey—			
No. 1 Ward	13 7	12 7½	12 10
No. 2 Ward	12 11	11 11½	12 2
No. 3 Ward	11 11	10 11½	11 2
Coulsdon and Purley—			
Coulsdon	10 3	10 4½	10 3
Sanderstead	9 8	9 10	9 8
Dorking	10 6	11 0½	10 6
East and West Molesey—			
East Molesey	11 0	11 6½	11 0
West Molesey	12 2	12 8½	12 2
Egham	12 2	10 7½	10 11
Epsom	9 11	10 0½	9 11
Esher and The Dittons—			
Esher	10 0	10 1	10 0
Long Ditton	10 8	10 10	10 8
Thames Ditton	10 2	10 7½	10 2
Farnham	12 0	10 11½	11 2½
Frimley—			
North Ward	9 5	9 0½	9 1½
South Ward	9 4	8 11½	9 0½
Ham	10 5	12 5½	10 5
Haslemere	11 7	11 9½	11 7
Leatherhead	9 3	9 9½	9 3
Merton and Morden—			
Merton	11 10	12 0½	11 10
Morden	12 6	12 8	12 6
Mitcham	14 9	14 0½	14 2½
Surbiton—			
Hook	11 0	11 0½	11 0
Surbiton	11 0	11 0½	11 0
Tolworth	11 0	11 0½	11 0
Sutton	8 6	9 3½	8 6
The Maldens and Coombe—			
Coombe	11 7	10 8½	10 10½
Malden	11 10	10 11	11 1
New Malden	10 11	10 1	10 3
Walton-upon-Thames	10 2	10 10½	10 2

SURREY—(continued).

Borough or District.	Poundage of rates for 1926-27.	Estimated poundage of rates for 1926-27 under the scheme before payment of special grant.	Estimated poundage of rates for 1926-27 under the scheme after payment of special grant.
5.	6.	7.	8.
<i>Urban Districts (contd.)—</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
Weybridge	9 8	9 11½	9 8
Windlesham	11 10	10 9½	11 0
Woking—			
Horsell	9 0	9 7	9 0
Woking	10 2	10 0½	10 0½
<i>Rural Districts—</i>			
Chertsey	8 9½	6 10½	7 2½
Dorking	8 4½	7 2	7 5
Epsom—			
Epsom Union	7 7½	6 10½	7 0
Croydon Union	7 11½	6 10½	7 0½
Farnham	8 2½	7 2	7 4½
Godstone	10 9½	7 0½	7 5
Guildford	8 5½	6 5½	6 10
Hambleton	7 8	6 6½	6 9
Reigate	8 4½	6 9½	7 1½

ADMINISTRATIVE COUNTY OF WARWICK.

STATEMENT showing—

- (1) the estimated grant allotted to the County under the Scheme, and
 (2) the poundage of the rates levied in the year 1926-27 in the several Rating Areas in the County and, according to the best estimate that can be made, the poundage that would have been levied in that year under the Scheme.

Estimated Population 1926).	Estimated aggregate loss of grants and rates (in pence per head of population of the County).	Total Grant in aid (in pence per head of population of the County).	Gain to the County under the scheme (in pence per head of population of the County).
1.	2.	3.	4.
	County Council 239-10	75 per cent. of total in Column 2 ... 200-19	
	Borough and Urban District Councils ... 20-05	Formula Grant:— On population weighted for children and rateable value 76-18	
	Rural District Councils ... 7-78	For density weighting ... 25-06	
		For unemployment weighting ... —	
		—101-24	
370,700	Total ... 266-93	Total ... 301-43	34-50

Borough or District.	Poundage of rates for 1926-27.	Estimated poundage of rates for 1926-27 under the scheme before payment of special grant.	Estimated poundage of rates for 1926-27 under the scheme after payment of special grant.
5.	6.	7.	8.
<i>Boroughs—</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
Leamington	12 8	13 5½	12 8
Nuneaton	19 6	17 0	17 7
<i>Stratford-on-Avon—</i>			
Neveston	13 2	13 7½	13 2
Old Stratford			
Within	12 0	12 5½	12 0
Stratford-on-Avon	12 6	12 10½	12 6
Sutton Coldfield ...	10 8	11 5½	10 8
Warwick	13 4	14 1½	13 4

In the case of the rural districts the poundage covers the whole of the rates levied in 1926-27, with the exception of those then levied to meet purely parochial charges. The excluded parochial rates ranged in different parishes from about 2d. to about 6s. 0½d.

WARWICK—(continued).

Borough or District.	Poundage of rates for 1926-27.	Estimated poundage of rates for 1926-27 under the scheme before payment of special grant.	Estimated poundage of rates for 1926-27 under the scheme after payment of special grant.
5.	6.	7.	8.
<i>Urban Districts—</i>			
Bulkington	15 3	13 1	13 7
Kenilworth	12 8	12 11½	12 8
Rugby	12 5	13 11½	12 5
<i>Rural Districts—</i>			
Alcester	11 7½	9 4½	9 10½
Atherstone	9 9½	9 6½	9 7½
<i>Brilles—</i>			
Chipping Norton			
Union	12 2	9 2	9 10½
Shipston-on-Stour			
Union	10 9½	9 2	9 6½
Coventry	10 0½	9 2	9 4½
Farnborough	9 2½	8 11½	9 0½
Foleshill	11 0½	9 4½	9 9½
Meriden	11 1	9 11	10 2½
Monks Kirby	8 11½	9 1½	8 11½
Nuneaton	12 11½	9 3	10 1½
Rugby	9 6	9 1½	9 3
Solihull	11 6½	9 4½	9 9½
Southam	9 3½	9 4½	9 8½
Stratford-on-Avon ...	10 4½	10 2½	10 2½
Tamworth (part) ...	10 5½	9 2½	9 6½
Warwick	11 1	10 9½	10 10½

ADMINISTRATIVE COUNTY OF WILTS

STATEMENT showing—

- (1) the estimated grant allotted to the County under the Scheme, and
 (2) the poundage of the rates levied in the year 1926-27 in the several Rating Areas in the County and, according to the best estimate that can be made, the poundage that would have been levied in that year under the Scheme.

Estimated population (1926).	Estimated aggregate loss of grants and rates (in pence per head of population of the County).	Total Grant in aid (in pence per head of population of the County).	Gain to the County under the scheme (in pence per head of population of the County).
1.	2.	3.	4.
	County Council 264.5	75 per cent. of total in Column 2 ... 224.6	
	Borough and Urban District Councils ... 29.6	Formula Grant:— On population weighted for children and rateable value 68.9	
	Rural District Councils ... 5.4	For density weighting ... 37.5	
		For unemployment weighting —	
		106.4	
310,600	Total ... 299.5	Total ... 331.0	31.5

Borough or District.	Poundage of rates for 1926-27.	Estimated poundage of rates for 1926-27 under the scheme before payment of special grant.	Estimated poundage of rates for 1926-27 under the scheme after payment of special grant.
5.	6.	7.	8.
<i>Boroughs—</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
Calne	14 4	14 0	14 0½
Chippenham—			
Langley Burrell			
(Within) ..	12 10	13 0	12 10
Chippenham			
(Within)	13 4	13 5½	13 4
<i>Devizes—</i>			
St. James and The Blessed Virgin			
Mary	12 0	11 0½	11 2½
Rowde Within ...	11 4	10 7½	10 8½
St. John the Baptist	11 8	10 10	10 11½

In the case of the rural districts the poundage covers the whole of the rates levied in 1926-27, with the exception of those then levied to meet purely parochial charges. The excluded parochial rates ranged in different parishes from about 2½*d.* to about 4*s.* 10*d.*

WILTS—(continued).

Borough or District.	Poundage of rates for 1926-27.	Estimated poundage of rates for 1926-27 under the scheme before payment of special grant.	Estimated poundage of rates for 1926-27 under the scheme after payment of special grant.
5.	6.	7.	8.
<i>Boroughs (contd.)—</i>			
Malmesbury—	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
St. Mary Westport and The Abbey..	11 4	10 0½	10 2½
St. Paul (Within)	11 8	10 2½	10 5
Marlborough ..	13 4	13 7½	13 4
Salisbury—			
Old City	11 1	10 11½	11 0
Added Area	10 9½	10 8½	10 8½
Swindon	14 8	15 6	14 8
Wilton	12 9	12 4	12 4½
<i>Urban Districts—</i>			
Bradford-on-Avon ..	12 10	11 9½	11 11½
Melksham	13 0	12 7½	12 8½
Trowbridge	14 4	13 7½	13 9
Warminster	12 0	12 0½	12 0
Westbury	12 7	13 2	12 7
<i>Rural Districts—</i>			
Amesbury	8 1½	8 2	8 1½
Bradford-on-Avon ..	9 9	8 3½	8 6
Calne	10 5½	8 6½	8 10½
Chippenham	9 0½	8 2½	8 4½
Cricklade and Wootton Bassett	9 1½	8 7½	8 8½
Devizes	11 1½	8 10½	9 2
Highworth	11 3½	8 5½	8 10½
Malmesbury	10 5½	8 11½	9 2
Marlborough	9 9	8 6½	8 9
Melksham	10 0½	9 3½	9 4½
Mere	8 9½	8 4½	8 5½
Pewsey	10 2½	8 7	8 10
Ramsbury	11 4½	8 11	9 8½
Salisbury	11 4½	8 8½	9 1½
Tetbury	10 0½	8 5½	8 8½
Tisbury	8 11½	8 3½	8 4½
Warminster	10 7½	8 6½	8 10½
Westbury and Whorwellsdown	9 10½	9 0½	9 2
Wilton	8 3½	8 8	8 3½

ADMINISTRATIVE COUNTY OF MONMOUTH.

STATEMENT showing—

- (1) the estimated grant allotted to the County under the Scheme, and
 (2) the poundage of the rates levied in the year 1926-27 in the several Rating Areas in the County and, according to the best estimate that can be made, the poundage that would have been levied in that year under the Scheme.

Estimated Population (1926).	Estimated aggregate loss of grants and rates (in pence per head of population of the County).	Total Grant in aid (in pence per head of population of the County).	Gain to the County under the scheme (in pence per head of population of the County).
1.	2.	3.	4.
	County Council 189·0	75 per cent. of total in Column 2 ... 183·6	
	Borough and Urban District Councils ... 54·4	Formula Grant:— On population weighted for children and rateable value 92·3	
	Rural District Councils ... 1·4	For density weighting ... 20·4	
		For unemployment weighting ... 26·9	
		139·6	
372,410	Total ... 244·8	Total ... 323·2	78·4

Borough or District.	Poundage of rates for 1926-27.	Estimated poundage of rates for 1926-27 under the scheme before payment of special grant.	Estimated poundage of rates for 1926-27 under the scheme after payment of special grant.
5.	6.	7.	8.
<i>Boroughs—</i>			
Abergavenny ...	s. d. 15 4	s. d. 13 0½	s. d. 13 0½
Monmouth ...	16 8	13 4	13 4
<i>Urban Districts—</i>			
Abercarn ...	15 6	14 11½	14 11½
Abersychan ...	15 9	11 5½	11 5½
<i>Abertillery—</i>			
Abertillery ...	20 0	17 11½	17 11½
Llanhilleth ...	20 4	19 5½	19 5½
<i>Bedwas and Machen—</i>			
Bedwas ...	19 8	18 7½	18 7½
Machen Upper ...	21 4	19 10	19 10

In the case of the rural districts the poundage covers the whole of the rates levied in 1926-27, with the exception of those then levied to meet purely parochial charges. The excluded parochial rates ranged in different parishes from about 2½d. to about 3s. 1½d.

MONMOUTH—(continued).

Borough or District.	Poundage of rates for 1926-27.	Estimated poundage of rates for 1926-27 under the scheme before payment of special grant.	Estimated poundage of rates for 1926-27 under the scheme after payment of special grant.
5.	6.	7.	8.
<i>Boroughs (contd.)—</i>			
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
Bedwelty—			
Rhymney Valley ...	22 3	20 7 $\frac{1}{2}$	20 7 $\frac{1}{2}$
Sirhowy Valley ...	20 1	18 5 $\frac{1}{4}$	18 5 $\frac{1}{4}$
Blaenavon ...	16 6	13 0 $\frac{1}{2}$	13 0 $\frac{1}{2}$
Caerleon ...	10 11	7 5 $\frac{3}{4}$	7 5 $\frac{3}{4}$
Chepstow ...	14 4	14 9 $\frac{1}{4}$	14 4
Ebbw Vale—			
Ebbw Vale ...	*14 8	*	*
Beaufort ...	19 10	15 1 $\frac{1}{2}$	15 2
Rassa... ..	20 0	15 2 $\frac{1}{2}$	15 3
Llanfrechfa Upper ...	13 10	10 11 $\frac{1}{2}$	10 11 $\frac{1}{2}$
Llantarnam—			
Inner District ...	13 6	10 9 $\frac{1}{2}$	10 9 $\frac{1}{2}$
Outer District ...	13 6	10 9 $\frac{1}{2}$	10 9 $\frac{1}{2}$
Mynyddislwyn ...	21 0	20 1 $\frac{1}{2}$	20 1 $\frac{1}{2}$
Nantyglo and Blaina	18 6	13 6	13 6 $\frac{1}{2}$
Panteg—			
Panteg and Griffithstown ...	13 6	12 4 $\frac{1}{2}$	12 4 $\frac{1}{2}$
Llanvihangel—			
Pontymoel ...	12 0	10 10 $\frac{1}{2}$	10 10 $\frac{1}{2}$
Pontypool ...	15 7	14 5 $\frac{1}{2}$	14 5 $\frac{1}{2}$
Rhymney—			
Llechryd ...	20 0	9 6 $\frac{1}{2}$	9 6 $\frac{1}{2}$
Rhymney ...	19 0	11 1	11 1 $\frac{1}{2}$
Risca ...	17 10	16 6 $\frac{1}{2}$	16 6 $\frac{1}{2}$
Tredegar—			
Dukestown ...	21 0	15 4 $\frac{1}{2}$	15 4 $\frac{1}{2}$
Tredegar ...	17 2	14 1 $\frac{1}{2}$	14 1 $\frac{1}{2}$
Usk ...	9 4	8 10	8 10
<i>Rural Districts—</i>			
Abergavenny ...	11 10 $\frac{3}{4}$	9 8 $\frac{1}{2}$	9 8 $\frac{1}{2}$
Chepstow ...	9 10 $\frac{1}{2}$	9 11 $\frac{1}{2}$	9 10 $\frac{1}{2}$
Magor ...	12 2 $\frac{1}{2}$	9 10 $\frac{1}{2}$	9 10 $\frac{1}{2}$
Monmouth ...	12 7	9 6 $\frac{1}{2}$	9 6 $\frac{1}{2}$
Pontypool ...	11 8	9 11	9 11
St. Mellons ...	11 2	10 2	10 2

* Ebbw Vale, Col. 6.—This rate appears to have been seriously deficient and consequently the rate under the scheme cannot be stated.

ADMINISTRATIVE COUNTY OF CAERNARVON.

STATEMENT showing—

- (1) the estimated grant allotted to the County under the Scheme, and
 (2) the poundage of the rates levied in the year 1926-27 in the several Rating Areas in the County and, according to the best estimate that can be made, the poundage that would have been levied in that year under the Scheme.

Estimated Population (1926).	Estimated aggregate loss of grants and rates (in pence per head of population of the County).	Total Grant in aid (in pence per head of population of the County).	Gain to the County under the scheme (in pence per head of population of the County).
1.	2.	3.	4.
	County Council 196·7	75 per cent. of total in Column 2 ... 160·6	
	Borough and Urban District Councils ... 15·0	Formula Grant:— On population weighted for children and rateable value 64·1	
	Rural District Councils ... 2·5	For density weighting ... 34·3	
		For unemployment weighting ... —	
		98·4	
119,810	Total ... 214·2	Total ... 259·0	44·8

Borough or District.	Poundage of rates for 1926-27.	Estimated poundage of rates for 1926-27 under the scheme before payment of special grant.	Estimated poundage of rates for 1926-27 under the scheme after payment of special grant.
5.	6.	7.	8.
<i>Boroughs—</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
Bangor	17 6	15 1½	15 9½
Caernarvon	17 10	12 10½	14 3½
<i>Conway—</i>			
Parish of Conway ...	12 9	13 9½	12 9
Parish of Gyffin ...	13 7	14 5½	13 7
Parish of Llanrhos ...	13 0	14 3	13 0
Pwllheli	15 4	14 4½	14 7½
<i>Urban Districts—</i>			
Bethesda	15 0	9 0	10 8½
Bettws-y-coed	11 5	11 2½	11 3½
Criccieth	14 10	13 2	13 7½
Llandudno	11 4	13 7½	11 4

In the case of the rural districts the poundage covers the whole of the rates levied in 1926-27, with the exception of those then levied to meet purely parochial charges. The excluded parochial rates ranged in different parishes from about 4d. to about 3s. 8½d

CAERNARVON—(continued).

Borough or District.	Poundage of rates for 1926-27.	Estimated poundage of rates for 1926-27 under the scheme before payment of special grant.	Estimated poundage of rates for 1926-27 under the scheme after payment of special grant.
5.	6.	7.	8.
<i>Urban Districts (contd.)—</i>			
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
Llanfairfechan ...	16 10	14 5	15 1½
Penmaenmawr ...	15 4	18 0	15 4
Portmadoc ...	14 10	12 7	13 2½
<i>Rural Districts—</i>			
Conway... ..	9 2½	9 5½	9 2½
Geirionydd	9 5	8 10½	9 0½
Glaslyn... ..	9 10½	9 1½	9 3½
Gwyrfai	13 4½	8 3½	9 7½
Lleyn	10 4½	8 4½	8 11½
Ogwen	10 9½	8 11	9 5½



SCOTTISH OFFICE.

**PROPOSALS FOR REFORM IN
LOCAL GOVERNMENT IN SCOTLAND
AND IN THE
FINANCIAL RELATIONS
BETWEEN THE EXCHEQUER AND LOCAL AUTHORITIES**

*Presented by the Secretary of State for Scotland to Parliament by
Command of His Majesty.*

June, 1928.

V33,606x7

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1928

Price 9d. Net.

Cmd. 3135.



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1928

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Cmd. 3135.

Proposals for Reform in Local Government in Scotland, and in the Financial Relations between the Exchequer and Local Authorities.

1. With a view to the assistance of agriculture and productive industrial undertakings, the Government have framed proposals for an alteration of the basis of rating of agricultural and industrial subjects designed to lighten the burden of local rates which at present presses upon these interests. The nature of these proposals was outlined in the Budget statement of the Chancellor of the Exchequer, and, as was then indicated, they involve important alterations in the system of Exchequer Grants, and modifications of the existing system of Local Government in Scotland. The Finance Bill, and the Rating and Valuation (Apportionment) Bill, contain parts of the legislative programme necessary to give effect to the scheme, and it is the intention that the remainder of the programme should be embodied in Bills to be laid before Parliament in the Autumn. The purpose of this Memorandum is to explain in some detail, for the information of Local Authorities, the nature and scope of the legislative proposals in the confident anticipation that the Government in framing the legislation may have the advantage of the co-operation of the Local Authorities.

2. Under the Scheme, it is proposed that Agricultural subjects shall be rated on one-sixth of the gross annual value, and that Industrial subjects and Freight-transport subjects shall be rated on one-fourth of the rateable value, as ascertained under the provisions of the Rating (Scotland) Act, 1926. Properties in the occupation of the Crown will be dealt with on similar lines.

The definitions of Agricultural, Industrial and Freight-transport subjects are contained in the Rating and Valuation (Apportionment) Bill, which also makes provision for effecting the necessary entries in the Valuation Roll. The de-rating proposals will come into operation in England as from 1st October, 1929, and provision will be made for a proportionate de-rating in Scotland in the financial year 1929-30.

3. The magnitude of these rating changes must profoundly affect both the general structure of Local Government and Local Authorities individually. Until the preparation of the valuation roll to be made under the Rating and Valuation (Apportionment) Bill has been completed it will be impossible to state with precision the amount of rates at present being raised by Local Authorities on the part of the rateable value of their areas which under the Government's proposals will be the subject of rate relief. That amount throughout this Memorandum is referred to as "loss of rates." It is estimated that, had the derating proposals been in operation in the year 1927-28, the loss of rates, taking Scotland as a whole, would have amounted to in round figures £3,200,000 for the year. To meet this loss an alternative source of revenue must be provided and the Chancellor of the Exchequer has stated that he is prepared, as part of the general scheme, to find moneys for this purpose from the Exchequer.

4. The receipts of Local Authorities from Government grants in the year 1926-27 (which is the latest year for which complete figures are

available) were approximately £13,000,000, while the total of rates levied was £20,500,000. If, in that year, the relief now proposed had already been given to industrial and agricultural property, and the proportion of local expenditure to be found under the present scheme from the Exchequer had corresponded with the above estimate of £3,200,000, the relation between grants and rates would have been :—

Grants	..	..	..	..	..	£16,200,000
Rates	..	..	..	..	..	£17,300,000

It has seemed to the Government that so large an increase in the Exchequer grants in aid of rates necessitates some reconsideration of the grant system, and the more so because reforms in regard to certain parts of that system have long been accepted as necessary. In particular (and especially having in mind that the relief of industry is a primary reason for undertaking a scheme of this magnitude) it has seemed to the Government that no scheme of the kind would be complete unless consideration were given to the case of those districts which have been commonly called necessitous areas.

5. If the de-rating proposals are important as affecting Local Authorities as a whole, they are no less so in their influence on individual Local Authorities. It must first be remarked that no scheme for providing an alternative source of revenue for Local Authorities can take the form of a grant varying from year to year with the expenditure of individual Authorities. Under such a scheme the Government would be committed to finding a material proportion of every Local Authority's general expenditure without any possibility of effective control, and the financial interest of Local Authorities in their administration would be seriously impaired.

6. The most important effect of the de-rating proposals on the position of the individual Local Authority is the narrowing of the basis of taxation available to that Authority, which necessarily involves a greater or less impairment of the capacity to meet the considerable fluctuations in expenditure inevitable from time to time. This is a matter of less significance in the case of larger Authorities, or of those whose resources are drawn from a wide area, but is of the greatest importance in the case of smaller and financially weaker Authorities who may be responsible for services involving considerable expenditure liable to periodic fluctuations between wide limits.

An examination of returns rendered by Local Authorities indicates that the loss of rates in rural parishes due to the de-rating proposals will vary from about 3 per cent. to 60 per cent. Thus, in the extreme case, the reduced rateable value on which would be charged any future increase in the cost of the local services would be not more than 40 per cent. of the present rateable value; in other words, where the Local Authority at present would require to meet an increase of expenditure by an additional levy of 1s. in the £, it would, in the future, in the absence of special action, have to levy a rate of 2s. 6d. in the £. In many parishes a rate of 1d. per £ of reduced valuation will yield less than £10.

7. For the reasons stated in the preceding paragraphs the Government have come to the conclusion that the necessary accompaniments of the

derating scheme are (a) some modification of the basis and method of Government contribution to local services ; (b) arrangements to meet the case of the necessitous areas ; and (c) arrangements to obviate the difficulties of those Authorities whose finances are on too narrow a basis. If the case of necessitous areas is to be met, a new method of distribution of Government grants and reorganisation of administrative arrangements are both requisite. Change in the areas or functions of certain authorities is the only way in which a remedy can properly be found for the difficulties of those authorities whose resources would be inadequate to enable them to meet their needs under the new conditions. Moreover, a fundamental part of the scheme is the introduction of a system of "block grants" based upon general characteristics and needs, and these must be ascertained for administrative areas sufficient in size to present average conditions.

8. The alterations required to meet the objects which the Government have in mind can only proceed on the basis of widening the area of charge. The services for which there is a clear case for modification of this kind are the poor law, public health and highway administration ; and in these cases it appears to the Government that the duties should be entrusted to Local Authorities of the first importance, and that the area of the charge should be as wide as is compatible with effective local interest in the work to be undertaken ; such a change is fully consistent with the principles on which local government is organised.

PROPOSED LOCAL GOVERNMENT REFORMS.

9. In Scotland there are a large number of Local Authorities which administer public services for very small areas, and the need for a reduction in the number of these authorities, and an enlargement of the units of administration has been generally realised in recent years, and has been given effect to in connection with certain services, e.g., the treatment of tuberculosis. It is an essential element of the Government scheme that the opportunity should be taken of effecting a wide-reaching reform in this sphere, which will make for an increase in simplicity and efficiency of administration. One important object to be kept in view is the unification of administrative and financial control of the major services under a single authority in each area. By this means it is hoped :—

- (1) to prevent overlapping of services such as now exists ;
- (2) to make better and fuller use of the numerous institutions belonging to local authorities ;
- (3) to secure more effective control over local expenditure by the authority of the area, not only with a view to economy, but also with a view to seeing that that expenditure is being applied to the best advantage according to the needs, financial ability and other circumstances of the area ; and
- (4) generally to promote efficiency in administration of the various services, thereby adding to the well-being of the persons for whom the services are administered.

Accordingly, it is proposed to abolish Parish Councils, Education Authorities, District Committees and District Boards of Control, and to transfer from the smaller authorities to authorities operating for enlarged areas the administration of the major health services. These proposals are dealt with in greater detail in the paragraphs which follow.

10. It is proposed to transfer to County Councils as they will be constituted under the scheme—

- (a) The powers and duties of Parish Councils in landward areas and in burghs with a population of less than 20,000 ;
- (b) the powers and duties of District Committees relating to Public Health, Roads and Highways, etc. ;
- (c) certain of the powers and duties relating to Public Health of Town Councils of burghs with a population of less than 20,000, which will include—
 - (1) Housing and town planning ;
 - (2) Hospital and other institutional services ;
 - (3) Infectious diseases (including tuberculosis and venereal diseases) ;
 - (4) Maternity and child welfare ;
 - (5) Sale of Food and Drugs Acts and Milk and Dairies Acts ;
 - (6) Water supply ;
 - (7) Drainage ;
 - (8) Prevention of rivers pollution ;
- (d) the powers and duties relating to the management and maintenance of classified roads of burghs with a population of less than 20,000 ;
- (e) the powers and duties of burghs with a population of less than 20,000 relating to the valuation of lands and heritages ;
- (f) the powers and duties of Education Authorities, except in the burghs of Edinburgh, Glasgow, Aberdeen and Dundee ;
- (g) the control and management of the police in burghs with a population of less than 50,000 ;
- (h) the powers and duties of the Standing Joint Committee in relation to the police.

11. The powers and duties of District Boards of Control, except in the case where the district board is now the parish council,* will be transferred to county councils and town councils of burghs with a population of 20,000 and over. The asylums for the several lunacy districts will be managed in each case by a Joint Committee of the constituent authorities within the district.

12. To meet the case of the smaller counties, it is proposed, to take power to combine counties for all administrative purposes, and also to take power to combine contiguous burghs. The Standing Joint Com-

* As regards these see paragraph 13.

mittee will cease to exist. Special provisions will be necessary for the regulation of the performance of the extensive new duties of the county council, and wide powers will be given of delegation of functions to committees of the council and to town councils of burghs within the county. Provision will be made for the due representation on the council of burghs with a population of less than 20,000, and for a re-determination of the numbers of county councillors and the number and boundaries of electoral divisions. The burghal representatives on the county council will be nominated by town councils from their own numbers, and the system of triennial election of county councils will continue. Provision will also be made for the representation on the county council, as education authority, of burghs (except the four largest burghs) with a population of 20,000 and over, and for the representation on the county council, as police authority, of burghs up to 50,000 population.

13. It is proposed to transfer to the Town Council of Glasgow the powers and duties of the District Boards of Control of Glasgow and Govan, and to the Town Councils of Edinburgh, Aberdeen, Dundee and Paisley the powers and duties of the District Boards of Control of these areas respectively; to transfer to the Town Councils of Edinburgh, Glasgow, Aberdeen and Dundee the powers and duties of the Education Authorities of these burghs respectively; and to transfer to the Town Councils of all burghs with a population of 20,000 or over the powers and duties of the Parish Councils in their areas. The opportunity will also be taken to carry out certain outstanding reforms of the Scottish poor law.

14. It is proposed that these alterations in the system of local government should take effect as from 16th May, 1930.

15. As regards the proposed transfer to county councils of the powers and duties of the town councils of the smaller burghs, relating to the management and maintenance of classified roads, it is contemplated that the town councils will retain the management of, and responsibility for, non-classified roads and streets, and that county councils may enter into arrangements with town councils to carry out the actual work on classified roads in burghs where such a course appears to be justified by considerations of efficiency and economy. Where such arrangements are made, the cost would be a charge on the county rate. The percentage grants in respect of classified roads for which county councils are responsible, including for this purpose the classified roads in the smaller burghs, will continue to be paid on a percentage basis as heretofore and will not be merged in the scheme of block grants outlined later in this Memorandum.

16. As regards classified roads in burghs with a population of 20,000 and over, the grants paid in respect of maintenance and ordinary improvement will be merged in the scheme of block grants. Works in the nature of major improvements of classified roads in such burghs will, however, continue to receive assistance through special grants from the Road Fund on a percentage basis as heretofore.

17. Provision will be made for the transfer of officers and servants of the superseded local authorities and for the compensation of such officers and servants of these and other authorities as suffer pecuniary loss by reason of the proposed legislation. A local authority which will cease to exist may have adopted the Local Government and other Officers' Superannuation Act, 1922. If its officers and servants are transferred to a local authority which has likewise adopted the Act provision will be made for the amalgamation of the superannuation funds and the administration of the Joint Fund. If the transfer is to a local authority which has not adopted the Act, the superannuation fund will be transferred to it and it will be required to continue to administer the Act for behoof of the officers within the scheme in the same manner as if it had been the adopting Authority.

18. Financial adjustments will be necessary in a number of cases, *e.g.*, in respect of poor law and public health institutions and of roads. In such cases a division of assets and liabilities between the authorities in whom new powers are vested will be required, and should present no difficulty.

RATING.

19. The present rating authorities (County Councils and Town Councils) will remain unaffected by the scheme and, consequently, burghs which are required to contribute towards services administered by the County Council will do so on precept, the amount of the contribution being based on the new rateable valuation.

20. As regards burghs with a population of 20,000 and upwards (hereinafter referred to as "large burghs") the poor rate and other rates in respect of services transferred from the Parish Council will be levied uniformly over the whole area of the burgh.

21. As regards counties the projected re-arrangement of local government services will necessarily involve a number of changes in the area over which certain rates will be charged. The following are the changes which it is proposed to make:—

- (i) *Roads*.—Expenditure on classified roads will be a charge upon the whole area of the county, including burghs with a population of less than 20,000 (hereinafter referred to as "small burghs"); expenditure on unclassified roads outside the small burghs will be a charge upon the whole landward area of the county and not by reference to the existing county districts which will disappear.
- (ii) *Poor and Registration*.—Expenditure will be a charge upon the whole area of the county, including the small burghs.
- (iii) *Police*.—Expenditure will be a charge upon the whole area of the county, except in cases of special police districts.
- (iv) *Public Health*.—Expenditure in respect of the major services to be administered by the County Council for the whole

area of the county, including the small burghs, will be a charge upon that area. Expenditure on minor health services corresponding to those administered by the Town Councils of small burghs will be a charge upon the whole landward area. As regards water supply and drainage, where special districts have been, or are, constituted, the expenditure will, as at present, be a charge on the special district, and it is proposed to assimilate the position of small burghs to that of special districts; in other cases, the expenditure on these services will be a charge on the whole area, excluding special districts and small burghs treated as special districts. Expenditure on housing will, as at present, be a charge upon the landward area or upon the small burgh, according as the houses are for the benefit of the inhabitants of such landward area or burgh. Expenditure on lighting and scavenging will remain a charge upon the special district benefiting therefrom. (Lighting and scavenging in small burghs will remain with the Town Council and the expenditure thereon will be a charge on the burgh ratepayers.)

As regards water supply, drainage, housing, lighting and scavenging, it is proposed that, with a view to providing for the development of these services, the County Council shall be empowered to contribute to them out of the general county rate in cases where the expenditure imposes an undue heavy burden on the ratepayers of the special district or burgh.

- (v) *Burial Grounds*.—Expenditure will be a charge upon the whole landward area of the county and upon those burghs which are not authorities under the Burial Grounds Act.
- (vi) *Special Parish Rate purposes (Local Government (Scotland) Act, 1894) and Public Libraries*.—Expenditure will be a charge upon the particular parish or landward part of parish concerned.

FINANCIAL PROPOSALS.

22. The grants from the Exchequer to local services which it is proposed to review in connection with the derating proposals and the provision of a new source of revenue for Local Authorities are as follows:—

- (i) The Assigned Revenue and Local Taxation Licence Grants.
- (ii) The Grants under the Agricultural Rates (Scotland) Acts 1896 to 1923.
- (iii) The percentage grants in aid of health services* :—
 - Tuberculosis.
 - Maternity and Child Welfare.
 - Welfare of the Blind.
 - Veneral Diseases.
 - Mental Deficiency.

* The grants in aid of port sanitary services and of training of midwives and health visitors as well as the Highlands and Islands (Medical Service) Grant will be continued on the present basis.

- (iv) The classification grants for Class I and Class II roads in large burghs and the grants for the maintenance of scheduled roads in County Districts.

Exchequer grants other than the above-named will not be affected by the scheme.

23. The Government propose to widen materially the scope of the Exchequer grants to make up the deficiency due to derating. They have considered how the principles which should regulate a proper system of Exchequer grants can be applied and, in their view, such a system should—

- (i) recognise that a fair contribution should be made from the Exchequer towards the cost of local services ;
- (ii) ensure that Local Authorities have complete financial interest in their administration ;
- (iii) be adapted in its working to the needs of the areas ;
- (iv) permit the greatest freedom of local administration and initiative ;
- (v) provide for sufficient general control and advice from the Central Departments to ensure a reasonable standard of efficiency in administration.

Accordingly it is proposed to abolish the existing Exchequer grants referred to in paragraph 22.

24. The portions of the Assigned Revenue, &c., Grants at present applied to education and police services amounting to about £700,000 are, under present arrangements, treated as part of and deducted from the grants which would otherwise be payable by the Scottish Education Department and Scottish Office in aid of education and police services and, on the abolition of the Assigned Revenues, it is proposed that the equivalent of the grants applied to these services should be paid by these Departments out of voted monies.

25. The loss to the local authorities under the scheme will, therefore, be the rates on the rateable value lost under the derating proposals and the grants specified in paragraph 22 other than the parts of the assigned revenues referred to in paragraph 24. In place of the rate and grant revenue so lost by local authorities it is proposed to substitute a new source of revenue—an Exchequer grant-in-aid—fixed in total and for each authority for a period of five years and revised both in total and for each authority every five years.

26. The total sum to be distributed as the new grant-in-aid of revenue for the first quinquennial period will be made up of :—

- (i) The estimated loss of rates due to derating which would have been incurred by all local authorities in the year 1928-29 (taken for the purposes of the scheme as “the standard year”) on the assumption that the proposed local government changes had been in operation in that year, and that the Valuation Roll* in force on the 1st October, 1929, had been in force in that year.

* This expression as used throughout the Memorandum means the Valuation Roll in force at 1st October, 1929, subject to such adjustments of the valuations therein contained as may be necessary to give effect to the derating scheme for a whole year.

- (ii) The assigned revenue and local taxation licence grants payable for the standard year other than the grants specifically applied to education and police services.
- (iii) The Agricultural Rates Grants payable for the standard year.
- (iv) The Health Percentage Grants payable for the standard year.
- (v) The classification grants for Class I and Class II roads in large burghs and the maintenance grants for scheduled roads in county districts payable for the standard year.
- (vi) An additional sum of new money which for purposes of illustration has been taken as £750,000 for Scotland.

The actual total sum to be distributed will not be known until the loss of rateable value has been ascertained and the figures for the standard year are available. The new money to be included in the grant will, however, not depend in any way on the other figures, but will be fixed in advance. Its amount will be eleven-eightieths of the corresponding grant for England and Wales.

APPORTIONMENT OF GRANT AMONG COUNTIES AND LARGE BURGHS.

27. It is proposed that the whole of the new Exchequer grant-in-aid should in the first place be apportioned among counties and large burghs, this apportionment being ultimately according to a formula based on general characteristics independent of actual expenditure. In deciding what characteristics should be adopted, and what weight should be given to each, the aim has been so to adjust the distribution of this new revenue as to make the assistance vary with the need for local Government services in any area in relation to the ability of the area to meet the cost. After careful examination of a wide range of possible factors a combination of population, the proportion to the total population of children under five years of age, and the rateable value per head of population has been taken as the main framework of the formula.

To these factors of general application have been added two further factors of a special character, the one to allow for the additional burden thrown upon certain areas by abnormal unemployment, and the other for the considerable variations in the cost of certain local government services arising in counties from the differing density of the population. For the first purpose the proportion of unemployed insured men to total population according to Ministry of Labour returns has been adopted, and for the second the population per mile of public road as determined by the Ministry of Transport.

28. These factors are combined in the proposed formula so as to arrive at a "weighted population" for each administrative county and large burgh and when the scheme is in full operation the total sum available will be apportioned among the administrative counties and large burghs on the basis of weighted population.

Owing, however, to the very irregular distribution of the existing revenues to be replaced by the formula grant, it is considered that too

great a disturbance in local finance would be caused by introducing a complete allocation on this basis at one step. It is accordingly proposed during the first fifteen years of the scheme, to base the grant allotted to administrative counties and large burghs partly on the present distribution of these revenues and partly on the formula. For the first quinquennia period the fixed annual grant will be made up of two parts. The first part will be equivalent to 75 per cent. of the loss of rates and grants in the standard year calculated as explained in paragraphs 36 and 37 below; the second part, which in total will comprise the equivalent of 25 per cent. of the loss of rates and grants and the whole of the new Exchequer money, together roughly one-third of the whole grant, will be distributed according to the formula. On each subsequent revision it is proposed that more and more of the total grant should be distributed on formula until by 1945 the whole would be distributed entirely on this basis.

PROPOSED FORMULA.

29. The full formula proposed is as follows:—

(1) For each county and large burgh a figure of “*weighted population*” is arrived at by increasing the population in the standard year as estimated by the Registrar-General—

- (a) by the percentage by which, at the last previous Census, the number of *children under 5 years of age* per 1,000 of the population of the area exceeded 50, and
- (b) by the percentage by which, according to the Valuation Roll in force on the 1st October, 1929 (or, on subsequent revisions of the grant, in the year prior to the revisions), the *rateable value* per head of estimated population of the area is below £12 10s.*

In the case of the counties, the population so increased is weighted by two further factors and in the case of large burghs, by the first of these factors.

- (c) for *unemployment*; the number of unemployed insured men is expressed as a percentage of total estimated population, and where this percentage, averaged over 3 years, exceeds $1\frac{1}{2}$ per cent., the population as increased by (a) and (b) is further increased by a percentage equal to ten times the excess over $1\frac{1}{2}$ per cent.
- (d) for *low density of population*; where the estimated population per mile of roads is less than 100 persons the population as increased by (a) and (b) is further increased by the percentage by which the estimated population per mile of roads is less than 200 persons: and where the estimated population per mile of roads is 100 persons or more, by the percentage which 50 persons bears to the estimated population per mile of roads.

* The average rental per head of population in Scotland is about 25 per cent. higher than the corresponding rental in England. £12 10s. has therefore been taken as the equivalent of the £10 rental adopted for purposes of the scheme in England.

- (2) The total amount of the formula grant allotted to each large burgh and to each administrative county will be x pence multiplied by its weighted population. (The money factor x pence will be determined by the total sum available for distribution in Scotland on the formula basis.)

As regards the elements of the formula :—

- (a) the number of children under 5 years of age per 1,000 of the population varied from 41 to 140 at the last Census ; there were, however, only three areas in which the number was under 50 and accordingly that figure has been taken as a convenient minimum.
- (b) It is estimated that save in very few exceptional areas the reduced rateable value per head of population will be less than £12 10s.
- (c) The datum figure (1½ per cent.) taken for the unemployment loading is considerably below the average for the country at the present time (2·2 per cent.) and in the area of heaviest unemployment the weighting factor on the average of the last three years would amount to 68 per cent.

The heavy loading proposed for unemployment of ten times the percentage above the datum figure is due to the fact that in the first quinquennial period only about one-third of the total grant will be distributed under the formula. It is proposed that at each quinquennial revision, when a larger proportion of the total grant will be distributed under the formula, the loading for unemployment should be reduced in relation to the total formula grant.

- (d) The loading for density in administrative counties will result in some loading being applied in all counties. The addition in the most sparsely populated county would amount to nearly 90 per cent. and in 21 counties the addition would exceed 50 per cent.

DISTRIBUTION TO SMALL BURGHS AND LANDWARD AREA OF COUNTY.

30. Out of the total amount allotted to each administrative county a grant will be made to each small burgh at a uniform figure per head of actual population and to the landward area of the county at two-thirds of the uniform figure per head of actual population. The uniform figure will be one-half the amount ascertained by dividing the total grant allotted to all administrative counties by the aggregate actual population of the counties. The aggregate of the grants (1) paid to the small burghs and (2) allocated to the landward area will then be deducted from the grant appropriate to the administrative county as a whole and the balance will be the grant available to the county council in aid of the

general county rate to be levied over the whole area of the county (*i.e.*, the landward area and the small burghs).

The foregoing proposals in regard to the distribution of the grant within each administrative county have been framed with special reference to the very considerable changes in the incidence of rates within the county involved in the transfer of poor law, public health and certain highways to the county councils.

MODIFICATION OF PROPOSALS IN FIRST QUINQUENNIAL PERIODS.

31. For the first quinquennial period, grant will be paid direct to the town council of each large burgh, to the county council and to the town council of each small burgh within the county :—

- (a) The town council of each large burgh will receive a grant equivalent to 75 per cent. of the loss of rates and grants in the standard year together with the formula grant appropriate to the "weighted population" of the burgh.
- (b) The town council of each small burgh in a county will receive a grant at a uniform figure per head of actual population. The uniform figure will be ascertained as explained in paragraph 30.
- (c) Each county council will receive a grant equivalent to 75 per cent. of the loss of rates and grants in the standard year of the county council and the town councils and other authorities within the administrative county together with the formula grant at the full rate on the "weighted population" of the county, less the aggregate of the grants paid to the town councils of small burghs. This grant will be applied as follows :—
 - (i) the landward area will be credited with a grant at two-thirds of the uniform figure referred to in paragraph 30.
 - (ii) the balance will, subject to certain minor adjustments referred to in paragraph 33, be applied in aid of the general county rate levied over the whole area of the county, *i.e.*, the landward area and the small burghs.

32. It is also proposed that, in the case of any large burgh or administrative county (as a whole) in which the allotted grant in aid does not exceed the aggregate loss of rates and grants in the standard year by a sum equivalent to 1s. per head of actual population of the area, the allotted grant shall be increased by such a sum as will bring the net gain up to the equivalent of 1s. per head of the population.

As regards the small burghs and landward parishes within the administrative county it would, in view of the wide variation in the present poundage of rates in any one county, be impossible to guarantee that in every area there should be a decrease of rates consequent on the introduction of the scheme. Clearly, with equalisation of certain charges

throughout the county some areas will gain and others will lose, but it is desired to spread the full financial effect of the scheme over as long a period as possible. It is, therefore, proposed that if the calculated rate poundage in the standard year in any burgh or parish shows an increase resulting from the scheme to the burgh or parish a separate Special Grant should be given of the money equivalent of that increase. One-half of the separate Special Grant in each county will be found by the Exchequer and the other half will be chargeable by the county council against the small burghs and parishes in the county in which the calculated rate poundage in the standard year shows a reduction resulting from the scheme. The amount so charged will be proportional to the money equivalent of the rate reductions in the particular burghs and parishes. The Special Grant and the special charges against the burghs and parishes referred to will be reduced by one-fifteenth each year. In this way while certain areas will receive a substantial relief from the outset no area will suffer an increase of rate poundage by reason of the scheme when it comes into operation and the necessary adjustments will be spread gradually over a period of fifteen years. For the purpose of the Special Grant, calculations will be made for each area showing :—

- (1) the total rate which would have been required for the expenditure of the standard year, if in that year the scheme had been in force and the rate had been levied on the basis of the reduced values which will take effect as from 1st October, 1929; and
- (2) the total rate which would have been required if in that year the rate had been levied on the basis of the unreduced values according to the Valuation Roll for 1929-30, under the arrangements existing prior to the scheme coming into force.

The rates to which the scheme applies are the rates levied by Rating Authorities but do not include domestic water rates.

The proposed equalisation of certain charges throughout large burghs may also result in a loss to some of the parishes within such burghs. Accordingly it is hoped that it will be possible to introduce in respect of these parishes an arrangement analogous to that outlined above for small burghs and landward parishes in counties by which increases in rate poundage may be avoided.

33. In the case of landward areas the general scheme will apply to all rates except those raised for purely parochial purposes or for special district purposes of a local character. As regards rates levied in special districts or for parochial purposes, it is proposed that, for the first quinquennial period, the County Council shall receive an Exchequer Grant equivalent to 75 per cent. of the loss arising in the standard year from the derating of certain of the properties on which those rates are

levied, and that the remaining 25 per cent. shall be a charge on the balance of grant available to the county council.

34. As regards Joint Committees for Hospitals, etc., it is not proposed that any Exchequer grant should be paid to the Committees. So far as the contribution of the rating authorities to the Joint Committee is based on valuation the aggregate loss of rates of the Joint Committee calculated for the standard year will be apportioned among the constituent rating authorities on the basis of the reduced rateable values which will have effect as from 1st October, 1929, and treated as loss of rates of those authorities. The contributions of the constituent authorities after October, 1929, so far as based on valuation, will be calculated on the reduced rateable value.

35. The total annual grant ascertained for any area in the manner explained will, at the inception of the scheme, be fixed for five years as from 16th May, 1930, except for any alterations of area or authority during the period. If any such alterations take place, suitable adjustments of the grants payable to the areas affected will be made. At the end of the first period of five years the total grant will be revised. The non-formula part of the grant to each area, *i.e.*, the part directly proportional to the loss of rates and grants in the first standard year, will be reduced by one-third and the formula part will be increased. As regards the total sum to be distributed as grant-in-aid for the second quinquennial period (apart from the Special Grant given under the guarantee referred to in paragraph 32), it is proposed that the ratio of total Exchequer assistance in aid of local government (apart from the Special Grant) to the total rate-borne expenditure of the country at the beginning of the scheme should broadly be maintained. If there is any marked reduction in this ratio at the end of the first quinquennial period not due to temporary abnormal causes, further Exchequer money will be added to the total annual sum available for distribution during the second quinquennial period to enable the ratio to be restored.

The grant allotted to each county council and each large burgh will be re-calculated. The allocation of the formula grants will, of course, be made on the particulars of the area in a second standard year, probably 1934, the general basis of the formula remaining unchanged except that the unemployment weighting, as already explained (paragraph 29), will require to be revised in relation to the total sum distributed under the formula. The method of distribution to the small burghs and the landward area of the county will remain unchanged, but the rate of grant will, necessarily, be re-calculated.

As regards subsequent revisions of grant similar arrangements would apply. For the third quinquennial period there would be a further transfer from the non-formula part of the grant to the formula part, and for the fourth period the whole of the grant would be distributed on the formula basis.

METHOD OF CALCULATION AND ADJUSTMENT.

36. The *loss of rates in the standard year* for the purpose of the scheme will be calculated as follows:—

- (a) There will be ascertained the net rate-borne expenditure which would have been incurred by each spending authority (*i.e.*, the town council of each large burgh, the county council acting as the general county authority and also as the authority for the landward area and the town council of each small burgh) in the year 1928-29 on the assumption that effect had been given to the proposed re-arrangement of local government services. Where any parish is only partly within a county or large burgh the expenditure of the parish council in the standard year will for the purpose of this ascertainment be apportioned between the parts within and without the county or burgh on the basis of the reduced rateable valuation which will have effect as from 1st October, 1929.
- (b) The loss of rates in the standard year for each authority will be such proportion of the net expenditure so ascertained as the loss of rateable value due to derating according to the Valuation Roll in force on 1st October, 1929, bears to the total rateable value which, apart from the scheme, would have stood in the Valuation Roll. In the case of a county the aggregates of the corresponding values in the Valuation Rolls of all the rating authorities within the county will be taken for the purpose of ascertaining the appropriate proportion.

37. The *loss of grants in the standard year* will be the actual grants (for which the new scheme of grants is to be substituted) payable to each authority for the year 1928-29, subject to the following adjustments:—

- (1) The Agricultural Rates Grants applicable to expenditure on the services to be transferred to the county will be treated as grant payable to the county council acting partly as a general county authority and partly as a landward authority.
- (2) All Health Grants payable to authorities within an administrative county will be treated as grants payable to the county council as general county authority.
- (3) Road Grants applicable to expenditure on unclassified roads in county districts will be treated as grants payable to the county council acting as a landward authority.
- (4) The grants to voluntary associations in aid of the Welfare of the Blind will be apportioned among county councils and town councils of large burghs according to the residence of the beneficiaries and treated as grants payable to these bodies.

38. County councils and town councils of large burghs will be required to make contributions to the voluntary associations for the Blind. It is proposed that these contributions should as at present be made on a

capitation basis in accordance with a scheme to be made by the Scottish Board of Health.

39. Any grants under the existing scheme in respect of any period prior to 16th May, 1930, unpaid at that date will be paid. The grants payable under the new scheme will be ascertained, so far as they depend on local valuations and rates, from certified and audited returns furnished by local authorities and will be paid in six instalments during the financial year. It will be necessary to withhold some small part of the grant pending certification but the part withheld will not ordinarily exceed the remanet grant under the old scheme outstanding on 15th May, 1930, so that local authorities will receive a full year's grant revenue under the new scheme each year.

CONDITIONS OF GRANT.

40. The only conditions attaching to the grant will be the compliance with the general requirements of the new scheme and the efficient administration of the local services. Provision will be made for withholding some part of the grant in the event of a reasonable standard of efficiency not being maintained.

TRANSITIONAL ARRANGEMENTS.

41. The new general grant scheme will not come into force until 16th May, 1930, but the derating provisions will operate as from 1st October, 1929. It will be necessary, therefore, to make transitional arrangements for the compensation of authorities for the loss of rates in the period from 1st October, 1929, to 15th May, 1930. It is proposed that every county council, town council, parish council, education authority and district board of control should for that period receive a grant* equivalent to the full loss of rates calculated for the period of the standard year from 1st October, 1929, to 15th May, 1930. The calculation will be made as explained in paragraph 36 above, except that as the local government changes will not have been made there will be no transfer or apportionment of expenditure on poor law, public health and highway services. The grant will be payable in three instalments during the period referred to, and as there will probably be some delay in the ascertainment of the grant payable, payment on account will be made on the closest estimates available.

ILLUSTRATIONS SHOWING EFFECT OF SCHEME.

42. As an illustration of the approximate effect of the scheme, calculations have been made showing, on certain assumptions, what would have been the effect in certain areas if the scheme had been in operation in these areas in the year 1927-28; the grants to be withdrawn and the losses of rates are contrasted with the new grants under the scheme.

For the purpose of this illustration the loss of rates has been roughly estimated from returns recently furnished by Rating Authorities. The formula grants for counties and large burghs which would have been payable under the scheme have been calculated on a money factor of 31.35*d.* per head of weighted population for the year 1921.

* The grant to the county council would be in respect of both general county rates and district rates.

It is estimated that the aggregate of the formula grants on this basis would amount to about £2 million, which is roughly equivalent to 25 per cent. of the loss of rates and grants (£1½ million), together with £750,000 new Exchequer money.

The results of these calculations are shown in the Tables at the end of this memorandum for each of the 22 large burghs and for 8 counties. In the case of the counties figures are given showing :—

- (1) The actual rate poundage for 1927–28 for each of the parishes and small burghs (407 in number) within those counties.
- (2) The estimated rate poundage which would have been required for 1927–28 under the scheme before payment of the Special Grant referred to in paragraph 32.
- (3) The estimated rate poundage which would have been required under the scheme after payment of the Special Grant.

The grants to small burghs have been calculated at 173 pence per head of population, and the grants to landward areas at 115 pence per head of population.

The eight counties have been selected as being typical, and it is believed that the working of the financial scheme in counties generally is adequately illustrated by the Tables. The illustration is, of course, not intended to do more than give a rough picture of the position.

43. On the assumptions on which the illustration is based it will be seen that in the case of each of the 22 large burghs the total grant is in excess of the loss. Two burghs would have gained between 1s. and 2s. per head of population; five between 2s. and 3s.; four between 3s. and 4s.; three between 4s. and 5s.; and eight over 5s.

As regards the eight selected counties, in each case the total grant shown for the county as a whole is in excess of the loss. The illustration shows that the general effect of the scheme of distribution will be to mitigate very considerably the changes in the incidence of rates due to the widening of the area of charge for poor law, public health and highways. The year 1927–28 is, of course, an unfavourable year to take for illustrating the working of any scheme so far as the mining areas are concerned inasmuch as it contains a considerable amount of abnormal expenditure resulting from the dispute of the previous year, and it may be expected that under more settled conditions the divergencies in the poundage of rates would be considerably less than those shown in the Tables for these areas.

ESTIMATED COST TO THE EXCHEQUER.

44. It is estimated that with the additional grants to make the minimum gain to counties up to 1s. per head of population and the Special Exchequer Grants in reduction of the increases in the poundage of rates, the cost of the scheme to the Exchequer over and above the equivalent of the loss of rates and grants on the calculations of 1927–28 would amount to about £1 million for Scotland. The corresponding cost for England and Wales is estimated at about £7½ millions, making a total for Great Britain of about £8½ millions, of which £3 millions will be charged upon the Road Fund.

SCOTLAND.

Burghs with Population of 20,000 and upwards.

ESTIMATED Distribution of new Grant-in-Aid, referred to in paragraph 26 of the Memorandum, as compared with the loss of existing Grants to be withdrawn and the loss of Rates due to the Derating of certain Properties.

1.	2.	3.	4.	5.	6.	Grant under Scheme.			Gain or loss under Scheme in pence per head of actual population. (Col. 9—col. 3.)		Gain or loss under Scheme per £ of reduced rateable value.	
						7.	8.	9.	10.	11.	12.	13.
Name of Burgh.	Population (Census, 1921).	Estimated loss of grants and rates expressed in pence per head of actual population.	Number of children under 5 years of age per 1,000 of population.	Reduced rateable value, i.e., estimated rateable value per head of actual population after derating is in operation.	Percentage weighting for unemployment.	75 per cent. loss of rates and grants in column 3.	Grant in pence per head of actual population equivalent to a grant of £1,800 per head of weighted population.	Total grant in pence per head of actual population.	Gain.	Loss.	Gain.	Loss.
		d.		£	per cent.	d.	d.	d.	d.	d.	s. d.	s. d.
Aberdeen	158,963	122·0	90·1	8·3	14	91·5	78·0	169·5	47·5	—	0 5½	—
Dundee	168,315	216·0	87·2	8·2	18	162·0	79·0	241·0	25·0	—	0 3½	—
Edinburgh	420,264	162·0	77·3	11·6	10	121·5	56·0	177·5	15·5	—	0 1½	—
Glasgow	1,051,518	232·0	98·2	9·6	34	174·0	93·0	267·0	35·0	—	0 3½	—
Airdrie	25,093	128·0	118·3	5·4	68	96·0	156·0	252·0	124·0	—	1 11	—
Ayr	35,763	124·0	91·5	8·8	10	93·0	75·0	168·0	44·0	—	0 5	—
Clydebank	46,506	378·0	111·2	6·5	33	283·5	114·0	397·5	19·5	—	0 3	—
Coatbridge	43,909	302·0	122·3	5·3	54	226·5	148·0	374·5	72·5	—	1 1½	—
Dumbarton	22,933	158·0	109·1	5·5	47	118·5	128·0	246·5	88·5	—	1 4	—
Dunfermline	39,899	220·0	100·0	6·2	17	165·0	92·0	257·0	37·0	—	0 6	—
Falkirk	33,308	168·0	96·5	6·3	26	126·0	97·0	223·0	55·0	—	0 8½	—
Greenock	81,123	298·0	114·4	6·5	46	223·5	128·0	351·5	53·5	—	0 8½	—

Hamilton	39,420	140·0	119·4	5·6	48	105·0	136·0	241·0	101·0	—	1 6	—
Inverness	20,944	90·0	78·9	8·2	28	67·5	78·0	145·5	55·5	—	0 6½	—
Kilmarnock	35,911	118·0	98·5	6·9	18	88·5	90·0	178·5	60·5	—	0 8½	—
Kirkcaldy	39,591	236·0	90·9	6·4	28	177·0	92·0	269·0	33·0	—	0 5½	—
Motherwell & Wishaw...	68,869	208·0	119·0	5·4	60	156·0	149·0	305·0	97·0	—	1 6	—
Paisley	84,837	198·0	97·6	6·5	17	148·5	90·0	238·5	40·5	—	0 6½	—
Perth	33,208	126·0	74·5	8·8	5	94·5	59·0	153·5	27·5	—	0 3	—
Port Glasgow	21,023	244·0	131·0	5·4	44	183·0	145·0	328·0	84·0	—	1 3½	—
Rutherglen	24,744	204·0	89·2	6·8	19	153·0	85·0	238·0	34·0	—	0 5	—
Stirling	21,345	100·0	93·8	7·8	20	75·0	86·0	161·0	61·0	—	0 7½	—

ADMINISTRATIVE COUNTY OF ABERDEEN.

STATEMENT SHOWING:—

- (1) The Estimated Grant allotted to the County under the scheme and
 (2) The poundage of the rates levied in the year 1927-28 in the several rating areas in the County, and, according to the best estimate that can be made, the poundage rates that would have been levied in that year under the scheme.

Population Census 1921.	Estimated aggregate loss of grants and rates per head of total population of County.	Total grant in aid per head of population.	Gain to County under scheme (in pence per head of total population of County).
1.	2.	3.	4.
	<i>d.</i>		<i>d.</i>
	County Council... 360	75 per cent. of total in Column 2 ...	316
	Landward Area 51	Formula grant on population weighted for children and rateable value... 84	
	Burghs 10		Density weighting 57
			Unemployment do. —
			141
153,392	Total ... 421	Total ...	457
			36

Landward Area or Burgh.	Poundage of rates for 1927-28. (a)	Estimated poundage of rates for 1927-28 under the scheme before payment of special grant. (b)	Estimated poundage of rates for 1927-28 under the scheme after payment of special grant.
5.	6.	7.	8.
<i>Landward Area—</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
<i>Parishes—</i>			
Aberdour	8 7½	7 6½	7 7½
Aboyne	7 6½	7 6½	7 6½
Alford	7 6½	7 6½	7 6½
Auchindoir	8 4	7 6½	7 7
Auchterless	7 8½	7 6½	7 6½
Belhelvie	7 7½	7 6½	7 6½
Birse	7 9½	7 6½	7 6½
Bourtie	8 4½	7 6½	7 7

(a) Excluding water rates in burghs and special parish rates and special district rates in landward areas.

(b) For particulars as to special grant see paragraph 32 of memorandum.

Aberdeen—continued.

Landward Area or Burgh.	Poundage of rates for 1927-28. (a)	Estimated poundage of rates for 1927-28 under the scheme before payment of special grant. (b)	Estimated poundage of rates for 1927-28 under the scheme after payment of special grant.
5.	6.	7.	8.
	s. d.	s. d.	s. d.
<i>Landward Area—contd.</i>			
<i>Parishes—</i>			
Cairnie	8 8½	7 6½	7 7½
Chapel-of-Garioch	8 4½	7 6½	7 7
Clatt	7 8	7 6½	7 6½
Cluny	9 4½	7 6½	7 8
Coull	8 3	7 6½	7 7
Crathie and Braemar	7 7½	7 6½	7 6½
Crimond... ..	9 7½	7 6½	7 8½
Cruden	10 3½	7 6½	7 9
Culsalmond	7 5½	7 6½	7 5½
Daviot	8 2	7 6½	7 6½
Drumblade	9 3	7 6½	7 8
Drumoak	6 6½	7 6½	6 6½
Dyce	7 4½	7 6½	7 4½
Echt	7 2½	7 6½	7 2½
Ellon	9 2½	7 6½	7 8
Fintray	7 6	7 6½	7 6
Forgue	8 11½	7 6½	7 7½
Foveran	9 6½	7 6½	7 8½
Fraserburgh	10 7½	7 6½	7 9½
Fyvie	8 9½	7 6½	7 7½
Gartly	10 1½	7 6½	7 8½
Glass	8 9½	7 6½	7 7½
Glenbuchat	7 3½	7 6½	7 3½
Glenmuick	7 6½	7 6½	7 6½
Huntly	10 4½	7 6½	7 9
Insch	7 9½	7 6½	7 6½
Inverurie	7 6½	7 6½	7 6½
Keig	8 4½	7 6½	7 7
Keithhall and Kinkell... ..	8 8½	7 6½	7 7½
Kemnay... ..	8 8½	7 6½	7 7½
Kildrummy	7 6	7 6½	7 6
Kincoardine O'Neil	7 9½	7 6½	7 6½
King Edward	9 0½	7 6½	7 7½
Kinnellar	7 3½	7 6½	7 3½
Kinnethmont	8 0	7 6½	7 6½
Kintore	9 1½	7 6½	7 7½
Leochel-Cushnie	7 7	7 6½	7 6½
Leslie	7 7½	7 6½	7 6½
Logie-Buchan	9 4	7 6½	7 8
Logie-Coldstone	8 5½	7 6½	7 7½
Longside	8 4½	7 6½	7 7
Lonmay	8 0½	7 6½	7 6½
Lumphanan	8 5½	7 6½	7 7½

(a) See note (a) on page 22.

(b) See note (b) on page 22.

Aberdeen—continued.

Landward Area or Burgh.	Poundage of rates for 1927-28. (a)	Estimated poundage of rates for 1927-28 under the scheme before payment of special grant. (b)	Estimated poundage of rates for 1927-28 under the scheme after payment of special grant.
5.	6.	7.	8.
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
<i>Landward Area—contd.</i>			
<i>Parishes—</i>			
Meldrum	8 0½	7 6½	7 6½
Methlick	9 6½	7 6½	7 8½
Midmar	7 5½	7 6½	7 5½
Monquhitter	8 5	7 6½	7 7½
Monymusk	8 1½	7 6½	7 6½
New Deer	8 4	7 6½	7 7
New Machar	7 5½	7 6½	7 5½
Newhills... ..	7 5	7 6½	7 5
Old Deer	8 1	7 6½	7 6½
Old Machar	7 3½	7 6½	7 3½
Oyne	7 10½	7 6½	7 6½
Peterculter	7 2	7 6½	7 2
Peterhead	8 11	7 6½	7 7½
Pitaligo	9 1½	7 6½	7 7½
Premnay	8 0½	7 6½	7 6½
Rathen	8 8½	7 6½	7 7½
Rayne	8 5½	7 6½	7 7½
Rhynie	10 8½	7 6½	7 9½
St. Fergus	8 7	7 6½	7 7½
Skene	8 6½	7 6½	7 7½
Slains	9 7½	7 6½	7 8½
Strathdon	7 7½	7 6½	7 6½
Strichen	8 7	7 6½	7 7½
Tarland	8 9½	7 6½	7 7½
Tarves	9 5½	7 6½	7 8½
Tough	7 8½	7 6½	7 6½
Towie	7 5	7 6½	7 5
Tullynessle and Forbes	8 2½	7 6½	7 7
Turriff	8 6½	7 6½	7 7½
Tyrie	9 0	7 6½	7 7½
Udny	9 0½	7 6½	7 7½
<i>Burghs—</i>			
Ballater	5 7	7 8½	5 7
Ellon	8 0½	8 4½	8 0½
Fraserburgh	11 1	9 6	9 7½
Huntly	8 2½	7 3½	7 4½
Inverurie	5 8½	6 6½	5 8½
Kintore	7 7½	7 7½	7 7½
Old Meldrum	13 9½	10 1½	10 5
Peterhead	10 6½	9 10	9 10½
Rosehearty	10 2	5 8	6 0½
Turriff	10 2	8 7	8 8½

(a) See note (a) on page 22.

(b) See note (b) on page 22.

ADMINISTRATIVE COUNTY OF BERWICK.

STATEMENT SHOWING :—

- (1) The Estimated Grant allotted to the County under the scheme and
 (2) The poundage of the rates levied in the year 1927-28 in the several rating areas in the County, and, according to the best estimate that can be made, the poundage rates that would have been levied in that year under the scheme.

Popula- tion [(Census 1921).	Estimated aggregate loss of grants and rates per head of total population of County.	Total grant in aid per head of population.	Gain to County under scheme (in pence per head of total population of County).
1.	2.	3.	4.
	County Council <i>d.</i> 369	75 per cent. of total in Column 2 ... <i>d.</i> 345	<i>d.</i>
	Landward Area 87	Formula grant on population weighted for children and rateable value... 71	
	Burghs 4	Density weighting 55	
		Unemployment do. —	
		— 126	
28,246	Total ... 460	Total ... 471	11

Landward Area or Burgh.	Poundage of rates for 1927-28. (a)	Estimated poundage of rates for 1927-28 under the scheme before payment of special grant. (b)	Estimated poundage of rates for 1927-28 under the scheme after payment of special grant.
5.	6.	7.	8.
<i>Landward Area—</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
<i>Parishes—</i>			
Abbey St. Bathans ...	8 6½	8 5½	8 5½
Ayton	8 11½	8 5½	8 7½
Bunkle and Preston ...	7 9½	8 5½	7 9½
Channellkirk	8 2½	8 5½	8 2½
Chirnside	7 8½	8 5½	7 8½
Cockburnspath	8 2½	8 5½	8 2½
Coldingham	8 3½	8 5½	8 3½
Coldstream	8 6	8 5½	8 5½

(a) See Note (a) on page 22.

(b) See note (b) on page 22.

Berwick—continued.

Landward Area or Burgh.	Poundage of rates for 1927-28. (a)	Estimated poundage of rates for 1927-28 under the scheme before payment of special grant. (b)	Estimated poundage of rates for 1927-28 under the scheme after payment of special grant.
5.	6.	7.	8.
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
<i>Landward Area—contd.</i>			
<i>Parishes—</i>			
Cranshaws	7 4½	8 5½	7 4½
Duns	8 6½	8 5½	8 5½
Earlston... ..	8 6½	8 5½	8 5½
Eccles	7 10½	8 5½	7 10½
Edrom	7 5½	8 5½	7 5½
Eyemouth	9 8	8 5½	8 10½
Fogo	7 9	8 5½	7 9
Foulden... ..	8 2½	8 5½	8 2½
Gordon	8 4½	8 5½	8 4½
Greenlaw	8 2½	8 5½	8 2½
Hume	8 4	8 5½	8 4
Hutton	8 1½	8 5½	8 1½
Ladykirk	7 4	8 5½	7 4
Langton	7 10	8 5½	7 10
Lauder	9 1½	8 5½	8 8
Legerwood	8 2	8 5½	8 2
Longformaous	7 6	8 5½	7 6
Mertoun	8 8½	8 5½	8 6½
Mordington	8 1	8 5½	8 1
Nenthorn	8 5½	8 5½	8 5½
Polwarth	8 0	8 5½	8 0
Swinton	8 4½	8 5½	8 4½
Westruther	8 7	8 5½	8 5½
Whitsome	7 7	8 5½	7 7
<i>Burghs—</i>			
Coldstream	10 1	7 10½	8 7½
Duns	7 3	7 1	7 2
Eyemouth	10 2	7 9½	8 7
Lauder	5 11½	6 7½	5 11½

(a) See note (a) on page 22.

(b) See note (b) on page 22.

ADMINISTRATIVE COUNTY OF CLACKMANNAN.

STATEMENT SHOWING :—

- (1) The Estimated Grant allotted to the County under the scheme and
 (2) The poundage of the rates levied in the year 1927-28 in the several rating areas in the County, and, according to the best estimate that can be made, the poundage rates that would have been levied in that year under the scheme.

Population (Census 1921).	Estimated aggregate loss of grants and rates per head of total population of County.	Total grant in aid per head of population.	Gain to County under scheme (in pence per head of total population of County).
1.	2.	3.	4.
	<i>d.</i>		<i>d.</i>
	County Council... 186	75 per cent. of total in Column 2 178·5	
	Landward Area 19		
	Burghs 33	Formula grant on population weighted for children and rateable value 78·0	
		Density weight- ing 10·0	
		Unemployment do. 13·0	
		—101·0	
32,542	Total ... 238	Total ... 279·5	41·5

Landward Area or Burgh.	Poundage of rates for 1927-28. (a)	Estimated poundage of rates for 1927-28 under the scheme before payment of special grant. (b)	Estimated poundage of rates for 1927-28 under the scheme after payment of special grant.
5.	6.	7.	8.
<i>Landward Area—</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
<i>Parishes—</i>			
Alloa	11 3½	9 8½	9 11½
Alva	12 4½	9 8½	10 1½
Clackmannan	10 4½	9 8½	9 9½
Dollar	11 3½	9 8½	9 11½
Tillicoultry	12 5½	9 8½	10 7½
<i>Burghs—</i>			
Alloa	12 0½	12 7½	12 0½
Alva	13 6	12 1½	12 4½
Dollar	10 11	10 8½	10 8½
Tillicoultry	12 11½	9 4½	9 11½

(a) See note (a) on page 22.

(b) See note (b) on page 22.

ADMINISTRATIVE COUNTY OF DUMFRIES.

STATEMENT SHOWING :—

- (1) The Estimated Grant allotted to the County under the scheme and
 (2) The poundage of the rates levied in the year 1927-28 in the several rating areas in the County, and, according to the best estimate that can be made, the poundage rates that would have been levied in that year under the scheme.

Population (Census 1921).	Estimated aggregate loss of grants and rates per head of total population of County.	Total grant in aid per head of population.	Gain to County under scheme (in pence per head of total population of County).
1.	2.	3.	4.
	<i>d.</i>	<i>d.</i>	<i>d.</i>
	County Council... 244	75 per cent. of total in Column 2 ... 247	
	Landward Area 77		
	Burghs 8	Formula grant on population weighted for children and rateable value... 76	
		Density weighting 51	
		Unemployment do. —	
		— 127	
75,370	Total ... 329	Total ... 374	45

Landward Area or Burgh.	Poundage of rates for 1927-28. (a)	Estimated poundage of rates for 1927-28 under the scheme before payment of special grant. (b)	Estimated poundage of rates for 1927-28 under the scheme after payment of special grant.
5.	6.	7.	8.
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
<i>Landward Area—</i>			
<i>Parishes—</i>			
Annan	8 9	8 4	8 4½
Applegarth	8 9½	8 4	8 4½
Caerlaverock	8 4½	8 4	8 4
Canonbie	9 9	8 4	8 4½
Closeburn	8 5	8 4	8 4
Cummertrees	7 10½	8 4	7 10½
Dalton	8 0½	8 4	8 0½
Dornock... ..	8 3½	8 4	8 3½

(a) See note (a) on page 22.

(b) See note (b) on page 22.

Dumfries—*continued.*

Landward Area or Burgh.	Poundage of rates for 1927-28. (a)	Estimated poundage of rates for 1927-28 under the scheme before payment of special grant. (b)	Estimated poundage of rates for 1927-28 under the scheme after payment of special grant.
5.	6.	7.	8.
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
<i>Landward Area—contd.</i>			
<i>Parishes—</i>			
Dryfesdale	8 1½	8 4	8 1½
Dumfries	9 6½	8 4	8 4½
Dunscore	8 3	8 4	8 3
Durisddeer	8 11½	8 4	8 4½
Eskdalemuir	8 0½	8 4	8 0½
Ewes	8 0	8 4	8 0
Glencairn	8 7½	8 4	8 4½
Gretna	9 0½	8 4	8 4½
Half-Morton	8 3½	8 4	8 3½
Hoddam	8 5½	8 4	8 4
Hollywood	8 0½	8 4	8 0½
Hutton and Corrie	8 0	8 4	8 0
Johnstone	8 9	8 4	8 4½
Keir	8 6½	8 4	8 4
Kirkconnel	11 5½	8 4	8 5½
Kirkmahoe	8 4½	8 4	8 4
Kirkmichael	8 5½	8 4	8 4
Kirkpatrick-Fleming	8 6½	8 4	8 4
Kirkpatrick-Juxta	8 3½	8 4	8 3½
Langholm	8 11½	8 4	8 4½
Lochmaben	8 10½	8 4	8 4½
Middlebie	7 11½	8 4	7 11½
Moffat	8 5½	8 4	8 4
Morton	8 5½	8 4	8 4
Mouswald	8 5½	8 4	8 4
Penpont	8 11	8 4	8 4½
Ruthwell	8 2½	8 4	8 2½
St. Mungo	8 4	8 4	8 4
Sanquhar	8 9½	8 4	8 4½
Tinwald	7 11½	8 4	7 11½
Torthorwald	8 3½	8 4	8 3½
Tundergarth	8 7½	8 4	8 4½
Tynron	8 0½	8 4	8 0½
Wamphray	8 7½	8 4	8 4½
Westerkirk	8 1½	8 4	8 1½
<i>Burghs—</i>			
Annan	8 6½	7 4½	7 5½
Dumfries	8 8½	7 7	7 7½
Langholm	9 4	6 0½	6 2
Lochmaben	8 5	5 10	5 11½
Lockerbie	7 2½	7 9	7 2½
Moffat	6 9	7 0½	6 9
Sanquhar	9 7½	8 8½	8 8½

(a) See note (a) on page 22.

(b) See note (b) on page 22.

ADMINISTRATIVE COUNTY OF FIFE.

STATEMENT SHOWING :—

- (1) The Estimated Grant allotted to the County under the scheme and
 (2) The poundage of the rates levied in the year 1927-28 in the several rating areas in the County, and, according to the best estimate that can be made, the poundage rates that would have been levied in that year under the scheme.

Popula- tion (Census 1921).	Estimated aggregate loss of grants and rates per head of total population of County.	Total grant in aid per head of population.	Gain to County under scheme (in pence per head of total population of County).
1.	2.	3.	4.
	<i>d.</i>	<i>d.</i>	<i>d.</i>
	County Council... 219	75 per cent. of total in Column 2 ... 199	
	Landward Area 28		
	Burghs 18	Formula Grant on population weighted for children and rateable value... 82	
		Density weighting 16	
		Unemployment do. 1	
	Total ... 265	Total ... 298	33
213,435			

Landward Area or Burgh.	Poundage of rates for 1927-28. (a)	Estimated poundage of rates for 1927-28 under the scheme before payment of special grant. (b)	Estimated poundage of rates for 1927-28 under the scheme after payment of special grant.
5.	6.	7.	8.
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
<i>Landward Area—</i>			
<i>Parishes—</i>			
Abdie	9 3½	9 10	9 3½
Aberdour	10 6½	9 10	10 0½
Anstruther-Wester	6 11½	9 10	6 11½
Auchterderran	12 10½	9 10	10 10½
Auchtermuchty	9 10½	9 10	9 10½
Auchtertool	10 0	9 10	9 10½
Ballingry	15 5½	9 10	11 8½
Balmerino	10 0½	9 10	9 10½

(a) See note (a) on page 22.

(b) See note (b) on page 22.

Fife—continued.

Landward Area or Burgh.	Poundage of rates for 1927-28.	Estimated poundage of rates for 1927-28 under the scheme before payment of special grant.	Estimated poundage of rates for 1927-28 under the scheme after payment of special grant.
	(a)	(b)	
5.	6.	7.	8.
	s. d.	s. d.	s. d.
<i>Landward Area—contd.</i>			
<i>Parishes—</i>			
Beath	15 10½	9 10	11 10
Burntisland	9 6½	9 10	9 6½
Cameron	7 0	9 10	7 0
Carnbee	7 6	9 10	7 6
Carnock	11 4½	9 10	10 4½
Ceres	9 3½	9 10	9 3½
Collessie	9 3½	9 10	9 3½
Crail	7 6	9 10	7 6
Creich	9 0½	9 10	9 0½
Culross	15 10½	9 10	11 10½
Cultra	9 8½	9 10	9 8½
Cupar	9 6	9 10	9 6
Dairsie	8 11½	9 10	8 11½
Dalgety	10 2	9 10	9 11½
Dunbog	9 2	9 10	9 2
Dunfermline	11 6½	9 10	10 4½
Dunino	7 10½	9 10	7 10½
Elie	7 0½	9 10	7 0½
Falkland	9 3	9 10	9 3
Ferry-Port-on-Craig	8 4½	9 10	8 4½
Flisk	8 10	9 10	8 10
Forgan	7 1½	9 10	7 1½
Inverkeithing	10 11	9 10	10 2½
Kemback	9 9	9 10	9 9
Kennoway	9 9	9 10	9 9
Kettle	9 3½	9 10	9 3½
Kincoyhar	8 3	9 10	8 3
Kilmany	8 8	9 10	8 8
Kilrenny	7 4½	9 10	7 4½
Kinghorn	10 8½	9 10	10 1½
Kinglassie	9 7½	9 10	9 7½
Kingsbarns	7 8½	9 10	7 8½
Kirkcaldy and Dysart	10 7½	9 10	10 1
Largo	7 11½	9 10	7 11½
Lealie	9 8½	9 10	9 8½
Leuchars	7 3	9 10	7 3
Logie	9 2	9 10	9 2
Markinch	10 0½	9 10	9 11
Monimail	9 3½	9 10	9 3½
Moonzie	8 8½	9 10	8 8½
Newburgh	9 3½	9 10	9 3½
Newburn	7 6	9 10	7 6
Pittenweem	7 10½	9 10	7 10½
St. Andrews and St. Leonards	7 9½	9 10	7 9½

(a) See note (a) on page 22.

(b) See note (b) on page 22.

Fife—continued.

Landward Area or Burgh.	Poundage of rates for 1927-28. (a)	Estimated poundage of rates for 1927-28 under the scheme before payment of special grant. (b)	Estimated poundage of rates for 1927-28 under the scheme after payment of special grant.
5.	6.	7.	8.
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
<i>Landward Area—contd.</i>			
<i>Parishes—</i>			
St. Monans	7 5	9 10	7 5
Saline	10 2½	9 10	9 11½
Soconie	11 0½	9 10	10 3
Strathmiglo	9 8½	9 10	9 8½
Torryburn	11 1½	9 10	10 3
Tulliallan	12 3½	9 10	10 7½
Wemyss	13 11½	9 10	11 2½
<i>Burghs—</i>			
Anstruther Easter	9 0	11 3½	9 0
Anstruther Wester	7 4	8 11	7 4
Auchtermuchty	7 6	8 7	7 6
Buckhaven	13 4	11 11	12 4½
Burntisland	7 6	10 6	7 6
Cowdenbeath	13 8	9 10½	11 1½
Crail	8 6	9 3½	8 6
Culross	16 1½	10 7½	12 5½
Cupar	8 8	11 2½	8 8
Dysart	10 2½	9 2½	9 6½
Earlsferry	5 6	8 7½	5 6
Elie	6 3½	9 8½	6 3½
Falkland	10 1	11 5½	10 1
Inverkeithing	8 1½	11 7	8 1½
Kilrenny	8 9	8 0	8 3
Kinghorn	10 2	10 5½	10 2
Ladybank	8 2	10 1	8 2
Leslie	9 8	9 1	9 3½
Leven	10 4	11 1½	10 4
Lochgelly	13 6	9 4½	10 8½
Markinch	9 6	11 1½	9 6
Newburgh	7 2½	9 5½	7 2½
Newport	6 8½	10 2	6 8½
Pittenweem	8 9½	9 0½	8 9½
St. Andrews	7 11½	10 5½	7 11½
Tayport	9 5	10 6½	9 5

(a) See note (a) on page 22.

(b) See note (b) on page 22.

ADMINISTRATIVE COUNTY OF FORFAR.

STATEMENT SHOWING :—

- (1) The Estimated Grant allotted to the County under the scheme and
 (2) The poundage of the rates levied in the year 1927-28 in the several rating areas in the County, and, according to the best estimate that can be made, the poundage rates that would have been levied in that year under the scheme.

Popula- tion (Census 1921).	Estimated aggregate loss of grants and rates per head of total population of County.	Total grant in aid per head of population.	Gain to County under scheme (in pence per head of total population of County).
1.	2.	3.	4.
	<i>d.</i> County Council... 210	<i>d.</i> 75 per cent. of total in Column 2 ... 208	<i>d.</i>
	Landward Area 46	Formula Grant on population weighted for children and rateable value... 70	
	Burghs 21		Density weighting 36
		Unemployment do. 2	
		<u>108</u>	
102,737	Total ... 277	Total ... 316	39

Landward Area or Burgh.	Poundage of rates for 1927-28. (a)	Estimated poundage of rates for 1927-28 under the scheme before payment of special grant. (b)	Estimated poundage of rates for 1927-28 under the scheme after payment of special grant.
5.	6.	7.	8.
<i>Landward Area—</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
<i>Parishes—</i>			
Aberlemno	7 5	8 6	7 5
Airlie	7 11½	8 6	7 11½
Arbirlot	8 4½	8 6	8 4½
Arbroath and St. Vigean	10 7½	8 6	9 0½
Auchterhouse	8 1½	8 6	8 1½
Barry	8 5½	8 6	8 5½
Brechin	9 11½	8 6	8 10½
Careston	9 9	8 6	8 9½

(a) See note (a) on page 22.

(b) See note (b) on page 22.

Forfar—continued.

Landward Area or Burgh.	Poundage of rates for 1927-28. (a)	Estimated poundage of rates for 1927-28 under the scheme before payment of special grant.	Estimated poundage of rates for 1927-28 under the scheme after payment of special grant.
		(b) 7.	8.
5.	6.	7.	8.
	s. d.	s. d.	s. d.
<i>Landward Area—contd.</i>			
<i>Parishes—</i>			
Carmylie	8 11	8 6	8 7½
Cortachy	7 8½	8 6	7 8½
Craig	9 7½	8 6	8 9½
Dun	7 11½	8 6	7 11½
Dundee	9 10½	8 6	8 10
Dunnichen	8 4½	8 6	8 4½
Edzell	7 7½	8 6	7 7½
Eassie and Nevay	8 9½	8 6	8 6½
Farnell	7 7½	8 6	7 7½
Fern	7 10	8 6	7 10
Forfar	8 6½	8 6	8 6
Fowlis-Easter	12 3	8 6	9 5½
Glamis	8 7½	8 6	8 6½
Glenisla	8 4½	8 6	8 4½
Guthrie	8 8	8 6	8 6½
Inverarity	8 1	8 6	8 1
Inverkeilor	8 6	8 6	8 6
Kettins	8 1	8 6	8 1
Kingoldrum	8 1½	8 6	8 1½
Kinnell	7 10	8 6	7 10
Kinnettles	7 10½	8 6	7 10½
Kirkden	8 7½	8 6	8 6½
Kirriemuir	8 8½	8 6	8 6½
Lethnot	7 3	8 6	7 3
Liff and Benvie	8 2½	8 6	8 2½
Lintrathen	7 11½	8 6	7 11½
Lochlee	7 7½	8 6	7 7½
Logie-Pert	8 6½	8 6	8 6
Lunan	8 1½	8 6	8 1½
Lundie	8 2½	8 6	8 2½
Mains and Strathmartine	8 7½	8 6	8 6½
Maryton... ..	7 5½	8 6	7 5½
Menmuir	7 2	8 6	7 2
Monifieth	8 5½	8 6	8 5½
Monikie	8 3½	8 6	8 3½
Montrose	8 3	8 6	8 3
Murroes	8 9½	8 6	8 7
Newtyle	7 11	8 6	7 11
Oathlaw	7 9	8 6	7 9
Panbride	8 4½	8 6	8 4½
Rescobie	7 6½	8 6	7 6½
Ruthven	7 9	8 6	7 9
Stracathro	7 10½	8 6	7 10½
Tannadice	7 3½	8 6	7 3½
Tealing	8 5½	8 6	8 5½

(a) See note (a) on page 22.

(b) See note (b) on page 22.

Forfar—continued.

Landward Area or Burgh.	Poundage of rates for 1927-28. (a)	Estimated poundage of rates for 1927-28 under the scheme before payment of special grant. (b)	Estimated poundage of rates for 1927-28 under the scheme after payment of special grant.
5.	6.	7.	8.
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
<i>Burghs—</i>			
Arbroath	10 7	8 11	9 4
Brechin	10 2½	9 0½	9 4
Carnoustie	7 2½	8 6½	7 2½
Forfar	7 6	7 11½	7 6
Kirriemuir	7 7	7 4	7 4½
Monifieth	7 11½	9 3½	7 11½
Montrose	9 1½	8 10½	8 11½

(a) See note (a) on page 22.

(b) See note (b) on page 22.

ADMINISTRATIVE COUNTY OF INVERNESS.

STATEMENT SHOWING :—

- (1) The Estimated Grant allotted to the County under the scheme and
 (2) The poundage of the rates levied in the year 1927-28 in the several rating areas in the County, and, according to the best estimate that can be made, the poundage rates that would have been levied in that year under the scheme.

Population (Census 1921).	Estimated aggregate loss of grants and rates per head of total population of County.	Total grant in aid per head of population.	Gain to County under scheme (in pence per head of total population of County).
1.	2.	3.	4.
	<i>d.</i>		<i>d.</i>
	County Council... 210	75 per cent. of total in Column 2 ... 206	
	Landward Area 64	Formula Grant on population weighted for children and rateable value... 73	
	Burghs ... 1	Density weighting 60	
		Unemployment do. —	
		— 133	
61,511	Total ... 275	Total ... 339	64

Landward Area or Burgh.	Poundage of rates for 1927-28. (a)	Estimated poundage of rates for 1927-28 under the scheme before payment of special grant. (b)	Estimated poundage of rates for 1927-28 under the scheme after payment of special grant.
5.	6.	7.	8.
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
<i>Landward Area—</i>			
<i>Parishes—</i>			
Abernethy ...	9 3½	9 7	9 3½
Alvie ...	9 2½	9 7	9 2½
Ardersier ...	11 10½	9 7	9 9½
Arisaig and Moidart ...	14 9½	9 7	10 0½
Barra ...	21 6½	9 7	10 8
Boleskine and Abertarf	9 8½	" "	" "

(a) See note (a) on page 22.

(b) See note (b) on page 22.

Inverness—*continued.*

Landward Area or Burgh.	Poundage of rates for 1927-28. (a)	Estimated poundage of rates for 1927-28 under the scheme before payment of special grant. (b)	Estimated poundage of rates for 1927-28 under the scheme after payment of special grant.
5.	6.	7.	8.
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
<i>Landward Area—contd.</i>			
<i>Parishes—</i>			
Bracadale	14 4½	9 7	10 0½
Croy	9 6½	9 7	9 6½
Daviot	9 7½	9 7	9 7
Dores	9 5½	9 7	9 5½
Duirnish	18 5	9 7	10 4½
Duthil	8 10	9 7	8 10
Glenelg	11 8½	9 7	9 9½
Harris	18 5½	9 7	10 4½
Inverness	9 10½	9 7	9 7½
Kilmallie	10 5	9 7	9 8
Kilmonivaig	10 10½	9 7	9 8½
Kilmorack	9 9½	9 7	9 7½
Kilmuir (Skye)	22 1½	9 7	10 8½
Kiltarlity	12 0½	9 7	9 9½
Kingussie	8 3	9 7	8 3
Kirkhill	9 9½	9 7	9 7½
Laggan	8 8	9 7	8 8
Moy and Dalarossie	8 4½	9 7	8 4½
North Uist	14 4½	9 7	10 0½
Petty	10 10½	9 7	9 8½
Portree	13 6½	9 7	9 11½
Sleat	17 2½	9 7	10 3½
Small Isles	11 5½	9 7	9 9
Snizort	20 7½	9 7	10 7
South Uist	22 8½	9 7	10 9½
Strath	15 2½	9 7	10 1½
Urquhart	10 11½	9 7	9 8½
<i>Burghs—</i>			
Fort William	12 3	10 4½	10 6½
Kingussie	8 2	9 4½	8 2

(a) See note (a) on page 22.

(b) See note (b) on page 22.

ADMINISTRATIVE COUNTY OF LANARK.

STATEMENT SHOWING :—

- (1) The Estimated Grant allotted to the County under the scheme and
 (2) The poundage of the rates levied in the year 1927-28 in the several rating areas in the County, and, according to the best estimate that can be made, the poundage rates that would have been levied in that year under the scheme.

Population (Census 1921).	Estimated aggregate loss of grants and rates per head of total population of County.	Total grant in aid per head of population.	Gain to County under scheme (in pence per head of total population of County).
1.	2.	3.	4.
	<i>d.</i>		<i>d.</i>
	County Council... 260	75 per cent. of total in Column 2	<i>d.</i>
	Landward Area 61	241.5	
	Burghs 1	Formula Grant on population weighted for children and rateable value 94.0	
		Density weight- ing 19.5	
		Unemployment do. 2.5	
		—116.0	
297,931	Total ... 322	Total ... 357.5	35.5

Landward Area or Burgh.	Poundage of rates for 1927-28. (a)	Estimated poundage of rates for 1927-28 under the scheme before payment of special grant. (b)	Estimated poundage of rates for 1927-28 under the scheme after payment of special grant.
5.	6.	7.	8.
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
<i>Landward Area—</i>			
<i>Parishes—</i>			
Avondale	11 0½	11 2½	11 0½
Biggar	10 3	11 2½	10 3
Blantyre	16 0½	11 2½	11 10
Bothwell	13 1	11 2½	11 5½

(a) See note (a) on page 22.

(b) See note (b) on page 22.

Lanark—continued.

Landward Area or Burgh.	Poundage of rates for 1927-28. (a)	Estimated poundage of rates for 1927-28 under the scheme before payment of special grant. (b)	Estimated poundage of rates for 1927-28 under the scheme after payment of special grant.
5.	6.	7.	8.
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
<i>Landward Area—contd.</i>			
<i>Parishes—</i>			
Cadder	10 2	11 2½	10 2
Cambuslang	13 0	11 2½	11 5½
Cambusnethan	11 8½	11 2½	11 3½
Carlisle	11 0½	11 2½	11 0½
Carmichael	9 6½	11 2½	9 6½
Carmunnock	8 6½	11 2½	8 6½
Carnwath	13 1	11 2½	11 5½
Carstairs	10 1	11 2½	10 1
Covington	9 8	11 2½	9 8
Crawford	10 3	11 2½	10 3
Crawfordjohn	9 7½	11 2½	9 7½
Culter	9 8	11 2½	9 8
Dalserf	15 5½	11 2½	11 9
Dalziel	11 9½	11 2½	11 3½
Dolphinton	9 11½	11 2½	9 11½
Douglas	10 9	11 2½	10 9
Dunsyre	9 11	11 2½	9 11
East Kilbride	11 10½	11 2½	11 3½
Glasgow	12 2½	11 2½	11 4½
Glassford	10 8½	11 2½	10 8½
Hamilton	13 11	11 2½	11 6½
Lanark	10 4½	11 2½	10 4½
Lesmahagow	10 1½	11 2½	10 1½
Libberton	9 11½	11 2½	9 11½
New Monkland	13 0½	11 2½	11 5½
Old Monkland	13 2½	11 2½	11 5½
Pettinain	9 11½	11 2½	9 11½
Rutherglen	10 4	11 2½	10 4
Shotts	12 6½	11 2½	11 4½
Stonehouse	11 7½	11 2½	11 3½
Symington	9 7½	11 2½	9 7½
Walston	10 5	11 2½	10 5
Wandell and Lamington	9 5½	11 2½	9 5½
Wiston and Robertson	9 8	11 2½	9 8
<i>Burghs—</i>			
Biggar	9 2	11 6½	9 2
Lanark	10 0	12 0½	10 0

(a) See note (a) on page 22.

(b) See note (b) on page 22.

Kenya

REGISTRAR GENERAL'S
ANNUAL REPORT

1927

X7292-687r

Registrar General's Annual Report for the Year 1927.

SIR,

I have the honour to submit my report for the year ending 31st December, 1927, on the departments under my charge.

The total revenue received during the year amounted to a sum of £14,931 as compared with £36,544 for the previous year, showing a loss of £21,613, which can all be accounted for under one heading—Estate Duty—and I shall proceed to deal with the results of the year's working of each department under its separate heading :—

COMPANIES AND BUSINESS NAMES.

The number of companies on the Register at 1st January, 1927, was 289, and during the year two public companies and fifty private companies with a nominal capital of £1,046,100 were added thereto. Seventeen companies were wound up and two struck off the Register during the year, and thirty-nine public companies and thirteen private companies are in process of liquidation. Two public companies previously removed from the Register were restored thereto by order of the Court.

Seven foreign companies were registered under the provisions of Section 277 of the Companies' Ordinance and twelve ceased to carry on business in the Colony, leaving seventy-nine now on the Register.

Nineteen debentures and thirty-two mortgages representing a sum of £393,650 were registered and satisfaction was entered in the case of twenty-three debentures and mortgages for a total sum of £335,472. This is a considerable reduction in the former figure and increase in the latter as compared with previous year, and may possibly tend to show that many more companies are now reaching the production stage.

Legal proceedings were taken against two companies and fines amounting to Shs. 100 imposed.

BUSINESS NAMES.

Two hundred and eleven new business names were registered during the year and 122 struck off on cessation of business, leaving 1,516 on the Register.

Legal proceedings for breaches of the Ordinance were taken against four firms and fines amounting to Shs. 156/- imposed.

BILLS OF SALE.

Sixty-one bills of sale were registered during the year as against fifty-two for the previous year. Satisfaction was entered in eighteen cases leaving 603 still on the Register. The revenue amounted to £39, an increase of £8 over the previous year.

TRADE MARKS, PATENTS AND DESIGNS.

Ten patents and one design were registered during the year, leaving 134 patents and seven designs on the Register.

One hundred and sixty-one trade marks applications were received during the year and 109 certificates issued. Renewal certificates were issued in the case of 134 marks, 16 marks were abandoned and 22 marks were struck off for non-payment of renewal fees, leaving 1,417 marks on the Register at the close of the year.

The revenue amounted to £565, an increase of £173 over the previous year.

REMARKS.

The revenue from these four sources for the year under review amounted to £1,790, an increase of £109 on the previous year. A new series of Registers of Trade Marks has been prepared and completed during the year in which the marks are shown in their proper classes and this has proved of the greatest assistance in dealing with new applications. The fees charged are appreciably lower than in the United Kingdom, but when the new Trade Marks Ordinance comes into force; this matter can be re-considered in framing the new rules.

At the request of the Chambers of Commerce, a list of business names was also prepared during the year with, I understand, the intention of being eventually published for the use of the commercial community.

I have also had several inquiries for the provisional protection of patents pending registration in the United Kingdom, but I have pointed out to the applicants that this cannot be done here owing to the possibility of infringement of patents already registered in the United Kingdom.

I would like to point out that there are no rules for the liquidation of companies and I think these should be issued as soon as possible, as I have been appointed liquidator in one case and the English rules have had to be followed, although not applied to this Colony.

REGISTRATION OF BIRTHS, DEATHS AND MARRIAGES.

The revenue for the year amounted to £833, of which £585 was derived from the issue of Special Marriage Licenses, showing an increase of £113 over the previous year. This figure does not include the fees received by District Registrars for issuing ordinary Marriage Licenses and which are accounted for direct to the Treasury.

This Department is still in a very unsatisfactory state owing to the absence of proper Registers for the reasons given in my last report, and I cannot emphasise too strongly the necessity for these Registers if this Department is to be of any use to the public or for statistical purposes.

I would also like to point out the futility of registering native births, deaths and marriages in this Department, which in my opinion, should be confined to Europeans, and possibly, Asiatics. At a recent meeting of Senior Commissioners I pointed this out, when it was agreed that local Registries for native records would be far more satisfactory. If the new Registration Ordinance shortly to come before the Legislative Council passes into law, the whole question of native births, deaths and marriages will, I hope, be put on a proper footing.

ESTATE DUTY.

One hundred and eighty-three Schedules of Assets were filed during the year and duty amounting to £7,238 assessed thereon. The total duty collected during the year amounted to £9,430, a decrease of £25,354 on the previous year. This is accounted for by the reduction of the rates of duty and the fact that over £20,000 was received in 1926 from one very large estate.

OFFICIAL RECEIVER.

The new Bankruptcy Ordinance, framed on the English Act, came into force on 1st March, 1927, and in the period of ten months, twenty-eight Receiving Orders were made in Nairobi, of which two were subsequently rescinded; in six cases a trustee was appointed and twenty cases were left in the hands of the Official Receiver. In Mombasa, Receiving Orders were made in six cases, of which one was subsequently rescinded; in two cases a trustee was appointed and three cases left in the hands of the Official Receiver.

This is an extremely difficult Ordinance and it will be some time before any degree of efficiency is attained; no fees have, so far, been credited in Nairobi, except a sum of £61 from filing proofs of debt, but I hope to close several cases at an early date. In Mombasa, one bankruptcy was completed and fees amounting to £3 collected. In eight bankruptcies, monthly instalments are being paid, which means that these cases may remain open for a considerable time, and I can hardly imagine this was the intention of the Ordinance; I am not aware of what the practice in England is in such cases, but I will endeavour to ascertain same. It is early yet to express a definite opinion on this Ordinance, but I do not think the general public ever anticipated that cases in which the assets exceeded £300 must be dealt with by a trustee appointed by the creditors and not by the Official Receiver, and this may give rise to considerable difficulty in the future owing to the lack of suitable persons willing to undertake such work.

One bankrupt was prosecuted for an offence under the Ordinance and a sentence of nine months imprisonment imposed.

I was also appointed liquidator under the Court in the case of one private company ordered to be compulsorily wound up.

Already twelve receiving orders have been made this year, and if this should continue, it will be absolutely necessary for Government to consider a further increase in the staff, as the amount of detail work such as issuing notices, etc., involved in even the smallest case is extremely heavy, and with only one clerk to deal with these cases, delay is bound to occur.

Under the old Insolvency Act, eight new cases were opened during the year and twenty-four cases were finally wound up, leaving nine cases still to be dealt with. A sum of £43 was collected in fees, an increase of £33 over the previous year, and I do not think that any further cases under this Act should now be forthcoming. I may say that in all these cases I have been appointed receiver simply through the inability of the original receivers to do anything in getting the cases wound up.

The funds at the end of the year stood as follows:—

Insolvency Account	... ..	£902
Bankruptcy Account	... ..	£2,678

PUBLIC TRUSTEE.

The result of the year's working shows a revenue of £2,771 arrived at as follows:—

Public Trustee's fees :		
(Deceaseds' Estates)	... ..	£1,928
Public Trustee's fees :		
(Deceaseds' Estates, Districts)	... ..	378
Public Trustee's fees :		
(Trust Estates)	... ..	20
Interest on Fixed Deposits	... ..	445
		<hr/>
		<u>£2,771</u>

an increase of £1,422 on the previous year.

Court fees amounting to £262 and Estate Duty amounting to £375 were collected and paid during the year. Both these items show considerable increases over the previous year.

The number of new cases opened was 224, composed of 46 European, 68 Asiatic and 110 native and Arab estates, an increase of 45 over the previous year. The number of cases in course of administration at the close of the year was 77 and the number completely distributed was 206 as compared with 116 in the previous year.

The total sum received and credited amounted to £57,312 and disbursements to £58,636. The sum of £408 was transferred to the "Unclaimed Property" accounts as follows:—

Non-Native Estates	... ..	£70
Native Estates	... ..	£338

and a sum of £89 was paid to heirs who had been subsequently traced.

The administration of small estates by the District Officers acting as my agents continues to give every satisfaction and the revenue for last year shows the substantial increase of £233 over the previous year.

TRUSTS.

Eight new cases were opened during the year and two cases finally distributed, leaving 51 Trusts on the Register at the end of the year. The income for the year amounted to £710 and the fees for 1927, *i.e.*, £35, will be accounted for to the Treasury this year.

The funds under my control at 31st December, 1927, were as follows :—

Public Trustee (Administration Account)	£2,971
Public Trustee (Fixed Deposit Account) ...	14,550
Public Trustee (Trust Account)	699
Public Trustee (Trust Fixed Deposit Account)	6,827
Public Trustee (Mortgages)	15,640
	£40,687

as compared with £21,569 at the close of the previous year.

REMARKS.

The result of the year's working may, I think, be considered quite satisfactory and shows a decided improvement on the previous year. I have received every assistance from the District Officers and am greatly indebted to them for their help. The volume of correspondence is still extremely heavy and during the year the number of letters and acknowledgments despatched was as follows :—

Public Trustee	3,028
Official Receiver	962
Registrar General	3,686
Total	7,676

W. M. KEATINGE,
*Registrar General,
Public Trustee and Official Receiver
Kenya Colony and Protectorate.*

REPORT ON A PRELIMINARY SURVEY
OF THE
SEA FISHERIES OF KENYA COLONY.

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Report on a Preliminary Survey of the Sea Fisheries of Kenya Colony.

INTRODUCTION.

The question of a preliminary survey of the sea fisheries of Kenya was first raised about three years ago and after considerable correspondence had passed between the Governments of Kenya and the Union of South Africa, I was finally invited to proceed to Kenya to conduct such a survey. For the honour thus accorded me I am grateful to the Kenya Government.

I accordingly arrived in Mombasa on 20th September, 1928, with the intention of using this port as a base from which operations could be conducted both north and south.

Unfortunately upon my arrival I found that my requirements had not been anticipated, with the result that much valuable time was wasted before any serious operations could be started. This state of affairs, however, was soon rectified and various facilities were placed at my disposal, so that I was able personally to investigate the chief areas in which fishing was carried on along the coast of Kenya.

Before proceeding with the main thesis of this report, I should here like to place on record my sincere appreciation of the invaluable and generous assistance afforded me by certain officials of the Kenya Government. It would be invidious specially to single out any one individual and I, therefore, wish to tender my thanks to the following officials:—

The members of the Fisheries Survey Committee at Mombasa, which was constituted as follows:—

The Hon. Mr. G. Walsh, Commissioner of Customs for Kenya and Uganda (Chairman).

The Hon. Lt.-Col. O. F. Watkins, C.B.E., D.S.O., Senior Coast Commissioner.

The Hon. Mr. J. Cumming, M.L.C. for Mombasa.

The Hon. Major R. W. Robertson Eustace, D.S.O., M.L.C. for the Coast, and

Captain R. G. Sargeant, M.B.E., Port Captain.

This Committee rendered me every possible assistance and its work cannot be too highly appraised.

The Hon. the Director of Agriculture for Kenya (Alex Holm, Esq.), to whose Department I was seconded.

Dr. V. G. L. van Someren, Hon. Secretary of the East African and Uganda Natural History Society for the loan of certain publications of the Society.

The Government Coast Agent (J. Doherty, Esq.), for facilitating my transport up and down the Coast.

Mr. and Mrs. R. Rounthwaite, who so kindly provided me with accommodation during my visits to Malindi.

The District Commissioner at Malindi (Mr. MacKay).

The officials at Gazi and Vanga.

II.—THE CHIEF TYPES OF FISH, ETC., FOUND IN KENYA WATERS.

In compiling this list I have found the Paper on "The Sea Fishes of Mombasa" by R. J. Cunninghame, F.Z.S., Journ. E.Afr. and Uganda Nat. Hist. Soc., Vol. IV, No. 7, page 47, most useful.

At a later date I hope to give a complete list of fishes recorded from Kenya waters, but I think it advisable to mention the chief types found in the markets and used for consumption, in view of the fact that reference will be made to them from time to time. I have attempted to give the Swahili names in as many cases as possible and I am indebted to Mr. J. H. McQuade, Senior Collector of Customs, Mombasa, for the revision and correction of these names.

Swahili Name	Common Name	Scientific Name
*1. Simu uziwa ..	Herring or Sardine ..	<i>Clupea leiogaster.</i>
*2. Simu yati ..	" "	<i>Clupea punctata.</i>
*3. Simu mato (or koko)	" "	<i>Pellona brachysoma.</i>
*4. Wali wampungu ..	" "	<i>Engraulis indicus.</i>
5. Chembeu ..	Sickle or Concertina fish	<i>Drepane punctata.</i>
*6. Matongo ..	Horse mackerels	<i>Caranx kurra.</i>
*7. Koli koli ..	" "	<i>Caranx gymnostethoides.</i>
8. Pamamba ..	" "	<i>Caranx leptolepis.</i>
*9. Kotwe ..	" "	<i>Caranx melampygus.</i>
10. ——— ..	" "	<i>Caranx jerdau.</i>
11. Matokundu ..	" "	<i>Caranx compressus.</i>
*12. Pandu ..	Barracouda	<i>Scomberomorus guttatum.</i>
*13. Nguru ..	Commerson's King fish	<i>Scomberomorus commersoni.</i>
14. Kikorokoro ..	Slimy	<i>Liognathus insidiator.</i>
*15. Tangesi ..	Barracuda	<i>Sphyraena commersoni.</i>
*16. Tembu ..	Snapper	<i>Lutianus bengalensis.</i>
17. Numba ..	" "	<i>Lutianus gibbus.</i>
*18. Tazanda ..	" "	<i>Lutianus bohar.</i>
*19. Mkizi ..	Mulletts	<i>Mugil axillaris.</i>
*20. ——— ..	" "	<i>Mugil poecilus.</i>
*21. ——— ..	" "	<i>Mugil buchanani.</i>
*22. Sonyo ..	Mulletts	<i>Upeneoides vittatus.</i>
23. Mtumbuu ..	" "	<i>Belone chorum.</i>
24. Bamvua ..	" "	<i>Fistularia serrata.</i>
*25. Tawa ..	Scavenger	<i>Lethrinus ramak.</i>
*26. Tukuwana ..	" "	<i>Lethrinus cinereus.</i>
*27. Tangu ..	" "	<i>Lethrinus insulindicus.</i>
*28. Nyamvi ..	" "	<i>Lethrinus latifrons.</i>
*29. Chafi ..	" Spinefoot "	<i>Siganus nebulosus.</i>
*30. Chafi mayenga ..	" "	<i>Siganus stellatus.</i>
†31. Jodari ..	Tunny	<i>Thunnus pelamys.</i>
*32. Kwangu ..	Parrot wrasses	<i>Pseudocarus rivulatus.</i>
33. ——— ..	" "	<i>Pseudocarus ghobbam.</i>
34. Dizi ..	Wrasses	<i>Julis dorsalis.</i>
*35. Mrututu ..	" "	<i>Julis hebraica.</i>
36. ——— ..	" "	<i>Julis janseni.</i>
37. ——— ..	" "	<i>Julis purpurea.</i>
38. ——— ..	" "	<i>Julis lunaris.</i>
39. Mwanza ..	" "	<i>Coris formosa.</i>
40. Munziwa mawe ..	" "	<i>Coris annulata.</i>
*41. Mafua maji ..	" "	<i>Megalopsis cordyla.</i>
42. Pawale ..	Tarpon	<i>Megalopsis cyprinoides.</i>
*43. Tewa ..	Rock cod	<i>Epinephalus areolatus.</i>
*44. ——— ..	" "	<i>Epinephalus maculatus.</i>
45. Panga ..	Dorab or Wolf-herring..	<i>Chirocentrus dorab.</i>
46. Pandu majasi ..	Queen fish	<i>Chorinemus Sancti-petri.</i>
47. Suli Suli ..	Sail fish	<i>Histiophorus gladius.</i>
48. Tumbaku ..	Butterfly fish	<i>Chatodon guttatissimus.</i>
49. Fute ..	" "	<i>Plectorhynchus reticulatus.</i>
50. Mkunga ..	Eel	<i>Murana picta.</i>
51. ——— ..	" "	<i>Murana metagris.</i>
52. ——— ..	" "	<i>Murana undulata.</i>
53. Vumbama ..	Sand fish	<i>Platycephalus tentaculatus.</i>
54. Tuje ..	Sea bat	<i>Platax teira.</i>
*55. Chena ..	Mud bream	<i>Pagrus berda.</i>
*56. Chaa ..	" "	<i>Xystama oblongus.</i>
57. Wayo ..	Sole	<i>Cynoglossus sindensis.</i>
58. Fumi ..	" "	<i>Macrones sp.</i>
59. Mtaunzi ..	Similar to Cat fish	<i>Plotosus anguillaris.</i>
*60. Kiramba ..	Grunter	<i>Pomadasys stridens.</i>
61. Mtumbati ..	" "	<i>Hemipteronotus tenuis</i>
62. Puju ..	Unicorn fish	<i>Monoceros brevirostrus.</i>
63. Kangaja ..	Surgeon fish	<i>Teuthis gahn.</i>
*64. Taa ..	Ray	<i>Dasybatis warnak.</i>
*65. Nyenga ..	" "	<i>Dasybatis kuhli.</i>
*66. Papa ..	Shark	<i>Carcharias bleekeri.</i>
67. Mkamba ..	Crawfish	<i>Panulirus sp.</i>
*68. Kamba ..	Prawns	<i>Penaeus sp.</i>
*69. Jungoo ya Pwani ..	Beche-de-mer (Trepang)	<i>Holothuria sp.</i>
70. ——— ..	Molluscs	<i>Various genera.</i>
71. ——— ..	Shrimps	<i>Crangon sp.</i>
*72. Kaa ..	Crabs	<i>Various species.</i>

* The varieties thus marked are those which occur in the greatest quantities and which appeared to predominate during the months of September and October.

† It is interesting to note that the flesh of the Tunny, according to Temminck and Schlegel's "*Fauna Japonica*," is said to cause diarrhoea if eaten fresh, hence the fish is usually salted or dried.

Cunninghame, *op. cit.*, mentions various other types of fish, but in the above list I have only enumerated those species actually captured or examined by me personally.

It is apparent from the above list that there is certainly a great variety of fish prevalent in these waters and some species are caught in large numbers by the primitive methods at present in vogue. If it is possible to procure such quantities in this manner it is obvious that the adoption of modern methods must necessarily result in a great increase of production with the resultant stimulus to the industry.

III.—AIMS OF THE SURVEY.

The chief object of the present survey was to inquire into the following aspects of the fishing industry :—

(1). Examination of potential trawlable areas with a view to establishing an industry on a commercial basis commensurate with the resources.

(2). Inquiry into the present methods employed in fishing and the framing of suggestions for improvements along the lines of modern research.

(3). Examination of the methods of curing, etc., with a view to advancing constructive suggestions for modernising these processes. The success or failure of the industry is eventually dependent upon the methods employed in marketing and disposing of the fish captured.

The primary object of the present survey was to inquire into the possibilities of conducting fishing operations on a scale which would ensure the success of any commercial venture.

The economic importance of trawling as carried on in other countries on a large scale has led to the establishment of large commercial undertakings, the modern trawler with its adjuncts proving to be the most efficient method of capturing large quantities of fish which can be immediately prepared on board for the various processes of curing, smoking, refrigeration, etc., providing the sea bottom is suitable for trawling operations.

In order clearly to understand the methods of trawling, it is necessary briefly to describe the modern trawler with its gear.

A *modern trawler* is a steam vessel constructed of steel, about 120 feet long, 25 feet beam, depth 12 feet, equipped with 450 h.p. engines and of a gross tonnage of about 250 tons. The vessel is provided with a trawling winch situated amidships just forward of the wheelhouse. The winch consists of two steel steam-driven drums on which are wound the two wire cables which operate the net. The otter trawl at present used has evolved through different stages and is at present the most efficient instrument for the capture of fish on a large scale yet devised. The otter trawl is a large, flattened, conical bag, the mouth being held open during trawling by two large otter boards, one on each side, of a size 10 ft. long by 4 ft. high and 3 in. thick, heavily reinforced with iron. The towing warps are attached to these boards on the principal of the kite, *i.e.*, to the centre of the board, so that when the net is towed along the bottom, the resistance to the water keeps the mouth of the net open.

The *nets* vary in length up to 150 feet and are constructed of strong manilla twine, of 3 in. mesh in the front third, $1\frac{1}{2}$ in. mesh in the central portion and of doubled twine in the last third or cod end, where the mesh is about $1\frac{1}{4}$ in. A foot-line about 4 ins. in diameter drags along the bottom and scoops up anything along its path. The foot-line is about 140 feet long, while a shorter head-line (about 100 feet) holds the top of the mouth considerably in advance of the bottom. This net is towed along at about 3 knots per hour and is kept going for about $1\frac{1}{2}$ hours. The net is then hauled aboard, the cod end opened and the catch emptied on board.

A trawler, working on a good ground, may bring in up to ten tons of fish per trip.

From this brief description it is apparent that, given a suitable ground, trawling is the most efficient and expedient method of fish capture yet devised. A suitable ground is one composed of sand, mud or shells, either singly or combined, and from which coral and rocks are absent. It is hardly necessary to state that coral and rocks would cause considerable damage to the otter trawl by obstruction and consequent tearing of the mesh.

A suitable ground must, for economic reasons, be situated close to the base of the trawlers in order to expedite the placing of the fish on the market and also to keep down the overhead expenses incurred by steaming to and from the grounds.

It was the primary intention of the present survey to investigate suitable areas where trawling could be carried on advantageously. With this object in view and owing to the fact that it is impossible to work an otter trawl from any boat other than a fully equipped trawler, and such a vessel not being available here, I decided to carry out my investigations with a beam trawl, should I be fortunate enough to obtain a suitable vessel.

It was originally suggested that operations should be commenced in the vicinity of Kipini, but owing to the fact that Kipini is 120 miles distant from Mombasa and for the reasons advanced above, I decided to conduct a survey of the waters in the vicinity of Malindi which is nearer to the base and would prove an economically sound proposition in the event of the discovery of good grounds.

I accordingly left for Malindi on October 1st, but on my arrival there I found that a boat of about 12 ft. had been placed at my disposal. This was a most unsatisfactory state of affairs, and hence I returned to Mombasa with the object of obtaining a vessel powerful enough to draw the 12 ft. beam trawl. Through the kind offices of the Hon. the Commissioner of Customs (G. Walsh, Esq.), the Customs motor launch was placed at my service and in order to try her out I proceeded to Port Reitz where, according to the chart, a suitable bottom exists. The net result of this attempt was that, beyond proving the existence of a suitable trawable area, the boat was found unsuitable since, in the absence of a winch, it required the superhuman efforts of half a dozen men to get the small 3 ft. beam trawl aboard after it had been shot. To attempt to use the 12 ft. beam trawl from this boat was obviously out of the question. I reported to the Fisheries Survey Committee accordingly, and suggested that, before incurring the expense of the hire of the steam vessel "Mvita" I should also use her in Port Reitz where the waters were comparatively calm. The "Mvita" is only provided with a hand winch and I had hopes that, with the additional assistance of some more boys, the larger 12 ft. beam trawl could successfully be operated.

This trial also forcibly demonstrated the fact that, owing to the difficulty experienced in getting the trawl aboard, the "Mvita" could only be used in a dead calm sea and even then with only moderate success. The result of the trial was the capture of some immature soles of the genus *Cynoglossus* and some immature cat fish (*Plotosus anguillar*). It appears

as though the creeks like Port Reitz, Port Tudor and others might prove to be spawning grounds of the anadromous fishes, *i.e.*, those that proceed from the sea to the inshore waters for spawning purposes, and it would be well to keep this point in view should any further survey, such as I shall suggest later on, be conducted. Should further experiments prove the truth of this contention it may become necessary to proclaim such like places as sanctuaries and prohibit fishing there in order to conserve the supply.

Before coming to a definite decision on such a short trial as was conducted in Port Reitz without trying the boat in a heavy sea, I suggested that an attempt should be made at Malindi where conditions would be different. The "Mvita" was accordingly despatched thence and I personally conducted the operations. The first attempt was made with a moderate sea running, but owing to the considerable motion of the boat it proved a most hazardous undertaking and doubt about the safe hauling in of the net was always uppermost in one's mind. The area from Malindi to Mambui in a north-easterly direction was examined by means of the 3 in. trawl to ascertain the state of the bottom. This having been proved to be suitable, the 12 ft. trawl was shot in 25 fathoms and trawling carried on in the reverse direction. Owing to the absence of an adequate steam winch it proved impossible to haul in the net while the boat was proceeding even dead slow, hence she was stopped and the hauling commenced. The heavy seas and the strong northerly set of the current caused the vessel to drift back from off Malindi to the east of Mambui, *i.e.*, traversing the whole area trawled. A few small fish were obtained, together with some prawns and crabs, but it was definitely established that the boat was unsuitable for this type of work. However, I decided that further attempts should be made later, but owing to a repetition of the first day's experience and owing to the state of the sea, which was now much rougher, and the increased motion of the boat, I was reluctantly compelled to abandon this aspect of the survey. I reported along these lines to the Fisheries Survey Committee and, owing to the fact that no other suitable vessel could be procured, my resolution, that I should concentrate my preliminary survey along the lines suggested in paragraphs 2 and 3 above, was accepted.

While dealing with the question of proving the occurrence or otherwise of suitable trawable areas, I should like to state definitely that, from a minute examination of the charts of the areas around Malindi and other places and judging from

my own experiences, I am convinced that the following suitable regions, where intensive survey operations should be conducted from a fully equipped trawler, exist :—

Malindi.—(i). Areas extending to the N.E. and S.E. for a distance of about 8-10 miles within the 20 fms. line.

(ii). The whole area between the 50 and 100 fms. lines running parallel to the Coast from 3° 20'S to 3° 7'S off Malindi, a total area of approximately 400 square miles.

Kilifi.—Areas between the 20 and 100 fms. lines comprising about 150 square miles.

Gazi.—The regions outside the reefs show good bottoms of sand and mud and are about 250 square miles in area.

Vanga.—The region outside the Shimoni channel and that situated to the S.E. of Wasini Island comprising about 150 square miles.

The above-mentioned areas, on a very conservative estimate, comprise about 1,000 square miles of unexplored potential fishing grounds.

Whilst one realises the fact that the discovery of trawlable areas does not necessarily imply the corollary that these areas are capable of producing fish in commercial quantities, nevertheless the *prima facie* evidence in support of the contention that trawling could profitably be conducted in the above areas appears so strong that one is actuated to recommend most emphatically an intensive survey of these regions by means of a suitably equipped vessel, for it is only by intensive experimenting that any assumed hypothesis can definitely be proved. It was only by repeated experiments spread over a number of years and at considerable expense, that the Agulhas Bank of South Africa, one of the richest trawling grounds in the world, was eventually established.

Lest the apparent lack of trawling facilities should create the impression in some minds that my visit has proved abortive, I should like to remove any such misconceptions and to state definitely that the investigations I carried out as described in paragraphs 2 and 3 below have enabled me to form a very definite idea of the present fishing industry and have allowed me a unique opportunity of studying the methods on the spot, so that I am able to make definite suggestions as to the future *modus operandi* and I hope that my report will be of sufficient constructive value to the future of the industry and that it will develop along lines commensurate with the undoubted resources.

For reasons which would now be apparent, I decided to concentrate my survey on the examination of the present methods of fish capture with a view to formulating a constructive report on them and suggesting various means of modernising them.

The fact that the fish resources of the coast of Kenya Colony are great enough to permit of enormous development is definitely established, and this was demonstrated in no uncertain manner by periodic visits to the fish markets of Mombasa and certain other places visited along the Coast.

When one views the undoubted potentialities in the light of modern methods of capture, one is convinced that there is a future for the industry, provided that more efficient methods are employed. By advancing this view one does not necessarily advocate the scrapping of those means at present employed in fishing, but suggests that they should be retained as complementary to those enumerated and discussed later.

In accordance with my suggestions to and the resolution passed by the Fisheries Survey Committee, I intend giving a detailed report on the present methods with suggestions, which might prove beneficial to the industry. In order to enable me to accomplish this, I made as comprehensive a survey of the coast from Mamburi to Vanga, and conducted as minute an examination of the fishing industry and markets at all principal places, as the limited time at my disposal permitted of. The results are described under the following sub-headings:—

A.—PRESENT METHODS OF CAPTURE.

The methods are briefly as follows:—

(1). *Line fishing*.—This forms one of the main means of fishing and is indulged in along the whole coast. Almost any kind of boat is used, from the hand propelled dug-out, to the smaller type of dhow. The fishing is carried on inside the creeks or in the vicinity of the coral reefs and results in a limited catch per day. It can only be practised when the weather is calm or at a limited distance from the shore. (For suggested improvements see B (4) below).

(2). *Nets*.—The employing of nets seems to be limited to about two or three types, *viz.*, (a) the *sardine drag net* having a mesh of about $\frac{1}{4}$ in. to $\frac{1}{2}$ in.; (b) the *set or drift net* with a mesh of about 2 ins. and (c) a type of *draw net*.

Of these the *set nets* appear to be the most common and they were noticed at the various places along the coast especially at Gazi, and also between Vanga and the Island of Sii where about six were noticed. The net is well made and is buoyed by means of wooden floats tied to the head rope. These floats are about 6 ins. in length and keep the net vertical in the water, a net being about 100 feet in length. On account of the size of the mesh the moderate sized fish like mullets, etc., are gilled. The net is kept set for a day and is then visited by the fisherman in his dug-out, the captured fish being thus collected.

The *sardine net* is operated like a cast net, the shoal being surrounded by the net which is cast around it.

One was forcibly struck by the absence of the other commoner methods of net or Seine fishing and therefore detailed descriptions are given in B (2) below.

(3). *Fish-traps*.—The prevalence of this method of capture and the large number of traps found along the coast and especially in the creeks, establishes the fact that this is the most extensive form of fishing carried on.

The traps or kraals (Kiswahili, *uzio*) are constructed along conventional lines and vary little both in size and shape from the common pattern, so that a description is not necessary. The only question that arises is whether such a trap does not destroy a certain amount of fry owing to the fact that it captures all forms, both large and small, and the mesh of the traps, formed by the closely packed wooden pailings which are usually lined by wire netting of about $\frac{3}{8}$ in. mesh, makes escape of even the smallest fish almost impossible. However, in considering legislation restricting the use of these traps, it should be remembered that this form of capture is one of the most effective in use and generally is no more destructive than any other form. It certainly forms one of the most economical and effective forms of gear in modern fisheries.

Even although these traps produce a certain amount of revenue, I should strongly recommend that for the present no further permits for their construction in the ports round about Mombasa should be issued. There are at present about 100 such machines in operation.

Under this heading may be incorporated the *basket fish-traps*, also extensively in use at certain places along the coast. These traps are such common objects in nearly all the creeks

that a short description will suffice. The chief type is heart-shaped, made of bamboo or strips of wood cut from trees. In the re-entrant angle of the basket is a trapped opening through which the fish, having once passed, cannot escape. The mesh of these traps, owing to the fact that it is fixed in size can be regulated and so the capture of undersized and immature fish is prevented.

The effectiveness of these traps was evident at Shimoni during my visit, when about 200 fish of various species were caught in one trap.

(4). In the capture of shrimps or prawns a primitive type of net is used, but it has proved effective only up to a point. The net is similar to the sardine type, about 40 feet long by 6 feet deep with a mesh of about $\frac{3}{4}$ in. Some prawns are also obtained from the fish traps. The large number of prawns usually brought into the markets at the various centres makes it necessary to give fuller details of the modern methods of capture as under B (6) below.

B.—MODERN METHODS ADVOCATED.

In citing the various improvements that may be effected in the capture of fish I have been guided by the results of modern research into the most efficient methods of capture. The products of these researches are at present in use in all countries where the fishing industry forms one of the established revenue producing organisations and therefore it is perhaps as well to give as detailed descriptions as possible.

The question of the disposal of the catch is naturally a moot one, but when one takes cognisance of the fact that Mombasa, as a port for shipping, is one of the busiest on the East Coast, ships calling almost every day and that it is the first port of call where fish is really available, one is forced to advance the suggestion that any enterprising firm, with the necessary capital for investing in the fishing industry, would derive material benefits from this branch of commerce. Not only is there the question of supplying shipping, but the town itself, as well as the inland districts, is capable of absorbing any surplus quantity of fish. The complementary industry of the manufacture of fish oils, fish meal, fertilisers, etc., must also receive its due attention.

The Otter Trawl.

(1). A detailed description of a modern trawler and the otter trawl has already been given (See III above).

This method of fishing has been in use in most countries for some years and it is the most effective method of fishing practised at present. In South Africa, where research and survey operations have proved the occurrence of large fishing banks along the West Coast and off Cape Agulhas on the South Coast, this method is used to a great extent and has proved very effective. Until the investigations detailed in III (1) above have been carried out and the presence of fishing banks on which the otter trawl can be used have been proved, this method cannot be practised.

Seine Nets.

(2). Seines may conveniently be described as long rectangular nets, the upper edge being provided with a head line carrying corks which cause the line to float, and a foot line weighted with lead sinkers. Seines fall into the following classes:—

(a) *Beach seine or drag net.*—This type is used in comparatively shallow water, the net being paid out from a row boat, until the shoal of fish is surrounded. The net may be up to about 1,000 feet or more in length and 15 feet deep. It is then hauled in on to the beach. This net can only be used on a sloping sandy beach free from rock or coral which would tend to tear the net.

(b) *Surface seine* which is used on the principle of mine sweeping, *i.e.*, it is used from two boats in the following manner. The net is loaded into two boats, one-half the length into each. The boats then proceed to the fishing ground. When the shoal has been located the boats separate and eventually circle around paying out the net which forms a bag which slowly encircles the shoal. Each boat describes a semi-circle and they come together again when the last of the net has been paid out. The net is then hauled in and the catch taken into the boats. At places like Malindi, Gazi and Vanga, to mention only three, it appears as though such a seine would prove of great value in the capture of surface fish.

(c) *Purse seine.*—This type is a modification of the surface seine and may be about 300 yards in length and 20 yards in depth, having a mesh of $1\frac{3}{4}$ ins. It is used principally in the herring and sardine industries. The bottom of the net has a purse line running in brass rings 4 ins. in diameter. The net is paid out from two boats as in the case of the surface seine. When the boats meet, a special contrivance fixes the

ends of the net together and the purse line is hauled in, closing the bottom of the net and forcing a purse. From this purse the catch is bailed by means of a bag 4 ft. deep and 4 ft. in diameter into the mother ship which accommodates the smaller boats.

This type of net could be used for the capture of the types of " herrings " (*Clupea spp.*) and the various members of the mackerel family, prevalent in these waters.

(d) *Danish seine*.—This net is operated from a motor boat as follows :—When the fishing ground is reached, a large buoy, to which the free end of one of the hauling ropes of the net is made fast, is securely anchored. The net is then paid out in a large circle round the shoal and eventually the boat arrives back at the buoy. The attached rope is taken aboard and the net hauled in with the help of a special winch with which these boats are provided. The great depth of the Danish seine makes it possible to catch a great quantity of fish and the fact that they are not crushed as in the case of the otter trawl makes its use preferable in the capturing of the more delicate fish. The difficulty of its use lies in working it skilfully enough.

Set or Drift Net.

(3). This type of net, proves a most efficient means of capture and could with advantage be used as supplementary to the above-mentioned types of seines.

Decked Motor Boats for Deep-line Fishing.

(4). During the last two years, as a member of the Fishing Harbours Committee appointed by the Government of the Union of South Africa to inquire into the establishment of safe anchorages for fishing vessels along the coast, I had a good opportunity of studying conditions which I now find paralleled at certain points along the coast of Kenya. The analogy existing between these places is very apparent. At many places this Commission recommended the use of the decked motor boat for deep-sea fishing. The cost of this type boat is not so great when one takes cognisance of the fact that such a boat is suitable in any but the heaviest weather and has a great range of action, being able to proceed far afield with comparative safety and to conduct operations in deep water. Owing to the total absence of such craft from Kenya waters, the deep sea is as yet unexplored, with the result that all efforts are concentrated upon the inshore waters. There is no doubt but that the deeper waters will materially increase the present supply of fish, but it is beyond the

limited power of the types of boats at present in use here. One does not necessarily imply the scrapping of these smaller vessels which could still be used advantageously but, if the industry is to advance, better facilities should be available in the form of boats provided with motor power and capable of fishing far from the base. This motor vessel could act as a mother vessel to the smaller craft and take them in tow to the fishing grounds, take their catches aboard and tow them back.

Acting on the precedent established in the Union of South Africa where the Fisheries Department has undertaken the building of two motor boats of the type I shall describe in paragraph 5 below, and which have now been in operation for some time and have proved the success of the venture, I have no hesitation in suggesting to the Kenya Government that a decked-in boat of about 30 feet in length, provided with a 24 h.p. engine should be acquired in order that deep-sea line fishing could be started. Such a boat could be hired out for a period at a nominal rate, tried at various centres near Mombasa and should certainly prove an incentive to others to follow this example.

With such a boat, fishing with trawl lines to which numerous hooks are attached may be attempted for the capture of ground fish.

There is no doubt in my mind that no substantial improvements in the fisheries are possible until the facilities of boat handling have been increased by the use of motor power.

Open Motor Boats.

(5). The open type of motor vessel is a variant of the decked-in type and is usually 22 ft. to 24 ft. in length and supplied with a crude oil engine. I should advocate the use of such boats in the waters off Malindi, Kilifi, Gazi and Vanga. These boats could operate far afield under suitable weather conditions and can be hauled up on the beach after each trip. They ensure that the catch is brought in more quickly and constitute very efficient engines for fishing.

Prawn Nets.

(6). Periodic visits to the fish markets at the various centres and the results of my own operations proved conclusively that prawns were present in quantity at places like Mombasa, Port Reitz, Malindi, Vanga and others, and I think that a description of another method of capture will not be out of place.

A net about 150 fathoms in length and 12 ft. deep consisting of a bag about 30 ft. long and two lateral wings of equal length is generally used. The net is placed into a skiff drawn by a power boat (one such as that suggested under (4) or (5) above would be suitable) and the fishing grounds are visited. Here a smaller cast net is used for the purpose of sounding for prawns. As soon as a shoal is located the motor boat is anchored and the crew take to the seine-skiff and the net is laid, one end being attached and the net paid out. Wherever practicable the haul is made on to the beach, but when the operations are conducted far afield, the seine is hauled in next to the skiff and the prawns taken out by means of a dip net. The catch is transferred to the motor boat and packed in chopped ice in the well of the boat. Although prawns are sometimes found on sandy bottoms, they appear to prefer a mud bottom such as is found in Port Reitz, for example.

A small trawl of about 40 ft. across may also be used, the principle being similar to the otter trawl.

I shall deal in more detail with the prawn industry from the point of canning and drying in a subsequent chapter.

Crawfish Capture.

(7). I had better explain, lest I be thought guilty of a typographical error, that the term crawfish is applied to the marine form of crustacea related to the lobster, and belonging to the genus *Palinurus* or *Panulirus*, the fresh water form (genus *Astacus*) being designated *crayfish*.

As far as the crawfish is concerned, it was impossible accurately to gauge the extent to which they are prevalent in these waters and I am therefore unable to pass any opinion on the question as to whether this branch of the industry is capable of development. But the fact that they are present in smaller numbers may possibly lead, on further investigation, to the location of crawfish beds with the consequent development of this branch of the fishing industry. In anticipation of such development I think it desirable to give a description of the method of capture which is as follows :—

Crawfish Pots.

(8). The traps used for capture are called pots or creels which consist of oblong lath boxes in which the bait is placed. The pots have one or more funnel shaped openings through which the crawfish pass in search of food. The design of the openings prevents their escape. A pot is semi-cylindrical in

shape, about 4 ft. long, 2 ft. wide and 18 ins. in height. The funnels lead to the centre of the pot and the captured crawfish are removed through a door in the top of the pot. The pots are weighted down by stones which are fastened to the bottom. The pots are baited with fresh fish, but in some cases the theory is advanced that the small or partly decayed bait attracts the crawfish. The pots are set from a boat and examined periodically, when the catch is extracted and the pot rebaited.

As the local fishermen doubtless know the localities of the crawfish and as these pots are simply and cheaply constructed, I should suggest that some be constructed and loaned to a reliable fisherman with a view to arriving at some conclusion as to the numbers of crawfish present.

In connection with the capture of crawfish, however, I must draw the attention of the Government to the regulations in force in other countries as explained in Chapter IV.

C.—FISH PRESERVATION.

In dealing with the improvement of the existing methods of curing of sea fish as practised in Kenya one wishes, even at the risk of an apparent redundancy, again to stress the fact of the undoubted existence of a ready market for fish in its various forms from fresh to dried and cured in Mombasa, where, in addition to the supplying of boats calling at the port, the inland districts are capable of absorbing some quantity. It is in these directions that the ready disposal of large quantities of fish lies.

At present only two methods of curing have come to my notice and they are both so extremely primitive that I intend dealing with the various preservative processes in some detail.

The current methods employed are: (1) drying with incidental smoking, (2) salting.

The former method was observed at Malindi and Shimoni during my visits to these places and also at Mombasa. The smaller types of fish are gutted and a stick is placed through the longitudinal axis of the body to keep the fish firm. Stakes about 30 ins. long are cut and split along three-quarters of their length and the fish placed one above the other in these forks. The stakes are then placed in the ground in a circle so that they stand upright, sloping inwards towards the top, and a fire is lighted in the centre. From time to time the stakes are turned round so that both sides of the fish are exposed to the drying influence of the fire.

The ingenuity of the process is certainly commendable, but the unwholesome appearance of the finished article does not have the desired effect of stimulating the appetite! Therefore I am compelled to advocate the scrapping of this method except in the case of fish for consumption by the natives in smaller villages, and the substitution of methods which should be employed in the larger centres in specially constructed drying rooms to which the fish could speedily be despatched from the outlying centres by motor vessels.

Another equally objectionable method is that practised in the sun-drying of shark meat as was seen at Vanga and other places. The fish is cut into strips and simply placed on the sand, mostly unclean, where it is exposed to the drying action of the sun and made the centre of attraction for myriads of flies. If I have drawn a particularly lurid picture of these methods it is merely because I think that such practices have a deleterious effect upon a highly valuable article of food and make it unfit for human consumption and certainly so for sale.

Of course, it is fully realised that any commercial venture investing capital in the fishing industry will naturally develop along modern lines, so that their products could command a ready sale. Therefore it is not suggested that the Government should go to the expense of constructing the necessary adjuncts to the curing and preservation of fish, but it is essential that the sanitary conditions governing the current methods will be stringently imposed so that the preserved fish placed on the markets will be as wholesome and clean an article of food as is possible even under the present primitive conditions.

(1).—REASONS FOR FISH PRESERVATION.—Fish are generally looked upon as being highly perishable. Shortly after capture, certain changes begin to take place which, if allowed to continue, rapidly destroy the suitability of the fish for human consumption. One of the earliest changes is that known as *rigor mortis*, due to the coagulation of the cell proteins. *This condition comes about sooner and lasts a shorter time at higher temperatures, as in the tropics, than at lower ones.*

Rigor mortis is the mark of perfectly fresh fish and according to certain experiments carried out by Dutch investigators ("Nederlandsche Vereeniging Voor de Koeltechnik"), fish

frozen before *rigor* do not produce good flavour, but are best if frozen in *rigor*. After *rigor mortis* passes away, certain other changes occur. They are as follows :—

(a) *Autolysis*.—The tissues of fish contain enzymes which digest the tissues, causing a softening or liquefaction. The results are disagreeable, so that autolysis or “ ripening ” must be prevented or retarded. Autolysis is retarded, but not completely stopped by packing fish in ice.

(b) *Bacterial putrefaction*.—The alimentary tract, mucus of the skin, and gills are the most vulnerable points of infection. In warm temperatures putrefaction commences at once. The intestines become decomposed and the skin and gills are invaded, resulting in a sour or putrid smell. The bacterial invasion is retarded by refrigeration, and if freezing and cold storage are carried out by the best methods, fish may be preserved in good edible condition for a relatively long period.

(2).—METHODS OF PRESERVATION.—The chief methods of fish preservation which have been employed for centuries past are the following :—

- A.—Refrigeration ;
- B.—Salting ;
- C.—Smoking ;
- D.—Drying.

A.—Refrigeration.

According to Taylor,* the three factors of primary importance in the distribution of food are (i) constancy of supply ; (ii) constancy of demand, and (iii) non-perishability of the product.

Refrigeration serves to take fresh fish from the class of extreme perishables, and thus it is possible to move it into the market when it is necessary to meet a fluctuating demand. The supply and demand could thus be correlated. The fishing industry depends very largely on refrigeration, to a greater extent even than most other industries.

In addition to the above-mentioned agencies of decomposition which are circumvented by refrigeration and other processes of preservation, the following deleterious processes must be guarded against if refrigeration is to be successfully carried out :—

* Assistant in Charge, Division of Fisheries, United States Bureau of Fisheries.—“ Refrigeration and Cold Storage of Fish.”

(a) *Internal crystallization of the water content* which may be as high as 80 per cent. Slow freezing causes crystallization of the water with the resultant rupturing of the cells and rapid autolysis and loss of juices on defrosting.

(b) *Dessication*.—Owing to the loss of water by drying out, fish lose weight up to 50 per cent. in a short time, with the result that the skin shrinks, the tissues harden and the article is not acceptable as food.

(c) *Loss of flavour*.—Fish correctly frozen and stored remain for a long time in excellent edible condition. To ensure this the freezing must be done rapidly.

(d) *Rusting*.—Fats exude to the surface unless precautions are taken, with the result that oxidation and other changes take place. The fish then has a yellowish or "rusty" appearance. The flavour is rancid and the fish is unwholesome.

As previously explained, any commercial venture will assuredly develop the essential concomitants of the industry, including the construction of up-to-date refrigeration plants, so that it is not my intention to describe the construction of such a plant in the present report, but I have merely indicated the above necessary precautionary measures as a guide to any future undertaking.

The following works on *Refrigeration* from which further information may be culled are cited:—

Clark, Almy and Permington. "The Commercial Freezing and Storing of Fish," U.S. Department, Agr. Bureau of Chemistry, Bull. 635, 1918.

Fischerbote, Der. "Concerning Freezing of Fish." (German). *Der Fischerbote*, 7 (1915), 236-253.

Cooper, M. "Practical Cold Storage.—The Theory, design and construction of buildings and apparatus for the preservation of perishable products." 2nd Edition, Chicago, 1914.

B.—Salting.

The idea of fish-salting is based on the fact that salt has the power of preservation by extracting water from the tissues. Thus even in the process of smoking a certain amount of salting is resorted to. The reaction of salt is that simultaneously with the extraction of water, salt passes into the tissues by osmosis and converts the body juices into a

concentrated saline solution. An increase in the amount of salt such as, *e.g.*, in a strong salt solution, prevents bacterial growth, autolysis and the attendant decomposition of the tissues.

The actual composition of the salt used is one of great importance and impurities have to be guarded against. In common salt these impurities are the calcium and magnesium salts, sulphates and organic matter. The calcium and magnesium salts and all sulphates have the effect of retarding the rate of penetration of sodium chloride into the fish tissues. It is therefore important to use as pure a salt (Na Cl) as possible, especially when salting is practised in tropical climates. Pure salt has the effect of producing a very good article, soft, flabby and of a light yellow colour. Such fish are easily freshened and when cooked, resemble fresh fish. Liverpool Fishery Salt, which is an almost pure article, would fulfil all the necessary requirements.

It is not proposed to describe the various methods of salting, but attention must be drawn to certain necessary precautions which must be exercised if the success of the final product is desired.

*A Method of Salting Fish in Warm Climates
(After Tressler).*

The problem of salting fish in warm climates has proved a very difficult one, but the researches of Tressler and Taylor carried out at the United States Bureau of Fisheries with the co-operation of the John Hopkins University and tried out by the present author have been successful in evolving a satisfactory method.

According to the above-mentioned investigators the cardinal points of the process are :—

(1). After capture the fish should be iced, care being taken in the handling to prevent crushing and bruising.

(2). All viscera and blood must be removed in cleaning. This is most important, as any blood remaining in the fish has the tendency of souring the fish; fresh fish free from blood being capable of being salted at temperatures above 33°C. (91F.). After cleaning the last traces of blood should be removed by washing with ice water for half-an-hour or longer.

(3). All large fish should be split before being salted. About 35 lbs. of fine dry salt to 100 lbs. fish should be used in packing the fish into water-tight containers. No brine should be used and the salt should be of the highest purity obtainable, being free from calcium and magnesium which, as already explained, retard the penetration.

(4). The fish should be rolled in salt prior to packing and a uniform quantity of salt should be sprinkled over each layer.

Fish salted as described above are entirely free from the strong taste given by calcium and magnesium salts and by the soured blood. They are soft and flexible, and freshen quickly, producing an article resembling fresh fish in many ways.

The number of mullet (*mkizi*) captured round about Mombasa was a distinctive feature of the fishing and it would perhaps be as well to describe the methods of preparing salted mullet.

There are two methods of preparation as follows :—

(a). *Brine-salting*.—The mullet are cleaned as soon as possible after landing. They are split down the back from head to tail and the viscera and gills are removed. The heads should also be removed. The fish are soaked in clean sea water for about half-an-hour to allow of the blood and slime being washed off. Salt is then rubbed inside and out and the fish packed in barrels or other water-tight containers, flesh-side up, some salt being sprinkled over each layer. When the fish are thoroughly salted, they are repacked in fresh barrels, being placed flesh-side up, those of one layer being at right angles to the adjoining layers. The barrels are then filled with strong brine of not less than 95 per cent. concentration.

(b). *Kench-curing*.—The fish are cleaned and eviscerated as soon as they arrive at the salting plant. The roe is carefully removed and salted separately. The fish are washed in clean sea water. The fish are then rubbed with salt and piled backs downward in kenches four feet high under cover. Salt is sprinkled over each layer. The fish remain in kenches until desired for market when they are packed in boxes or tied in bundles.

In view of the fact that trade in fresh fish has undoubtedly a great future and that almost every variety of fish found in these waters is capable of being salted until desired for use, a description of a further method of preservation related to

salting is given. In this method sodium hypochlorite has been used and it has been found that it is possible to preserve fish free from taint. It is a powerful preventative and steriliser but is absolutely safe since it is reconverted into sodium chloride (salt) during its action on organic matter. Sodium hypochlorite is produced by electrolysis of sea water or brine, and small inexpensive plants are now available. According to Dr. R. S. Raj, Director of Fisheries, Madras (Madras Fish. Bull. XXII, p. 10, 1928), this is a temporary and absolutely innocuous preservative of fresh fish, and it is the one preservative that is likely to revolutionise the fresh fish trade and curing yards. Experiments have shown that about 200 c.c. of fluid is sufficient to keep 1 lb. of fish for over thirty hours. Research is being carried on to determine (1) the correct estimations of the percentages of chlorine per given weight of fish of different sizes and kinds, (2) suitable containers for fish preserved, (3) elimination of the faint smell of chlorine before sale.

I cite the following works from which further information regarding the question of *salting of fish* may be obtained:—

Duthrie, R. J.—“The Art of Fish Curing,” Aberdeen, 1911.

Seale, A.—“Reservation of Commercial Fish and Fishery Products in the Tropics.” *Philippine Journal of Science*, 9 (1914) Sec. D., 1-16.

C.—Smoking.

It is peculiar that comparatively little research along the lines of improving the quality of smoked fish has been carried on and the present processes are therefore much the same as those used from the earliest times.

In the process of smoking in Europe and America, fish is always first salted by immersion in brine or by adding dry salt to the fish. In the Orient, on the other hand, salting is not resorted to in the smoking of fish.

Hot-smoking and cold-smoking constitute the two main types of processes. In the former, the fish are kept close to the fire and are wholly or partly cooked while being smoked. This process only takes a few hours. In the latter case the fish are hung some distance from the fire and are smoked at a temperature not exceeding 80°F. Cold-smoking is the better method and may be used for many types of marine fish such as herring, mackerel, etc.

It is not necessary to give detailed descriptions of smoke houses at this stage, but in view of the fact that a *Holothurian*, beche-de-mer or trepang, occurs in appreciable quantities in the vicinity of Malindi and Vanga a short description of the prevailing methods of smoking it may be included.

(a) *Philippino Methods (Seale, op. cit.)*.—The trepang after being brought to the curing station must be cared for promptly, otherwise they become an unsavoury mess in a short time. They are boiled in a pot of water for twenty minutes. When taken out they should be hard and elastic and should dry quickly like a hard-boiled egg. After splitting open, the entrails are removed and they are placed in the sun, left until almost dry, and are then transferred to the smoke-house and smoked for twenty-four hours. They are then spread out and dried in the sun. Finally they are packed in bags.

(b) *Chinese Method (Cobb)**.—The animals after being split open and gutted are boiled in a deep iron pot. The trepang is then laid out in a special drying shed to dry in a dense column of smoke until thoroughly cured. They are then placed in sacks ready for shipment. They must be kept dry at all times as they spoil very rapidly with the least damp.

At Vanga there seems to be a steady supply of beche-de-mer which is being exploited by a Chinaman who forwards his products to an agent in Zanzibar, for shipment to China and Japan. I understand that the royalty is about Sh. 26 per 150 lbs., so that further exploitation of this commodity would result in quite a considerable revenue.

Reference.—*Southall, J. B.*—"A practical Small Smoke-house for Fish." Bur. Fisheries, Ec. Cir. 27 Rev. (1917).

D.—Drying.

I have already commented upon the methods of drying at present employed in the outlying districts, and I think it essential that these methods should be revised and substituted by those practised in other countries where the question of hygiene plays an important rôle in fish preservation.

The process of dehydration preserves fish by destroying enzymes and removing water necessary for bacterial growth. Fat fish cannot be dehydrated by the ordinary dehydration processes and no commercial attempts have been made to dry fatty fish having a fat content of over 0.2 per cent.

* "Increasing our Pacific Coast Resources," Calif. War Papers, Calif. State Council of Defence, 1918.

Although the drying influence of the sun is still employed in certain countries, commercially this is done in moving air current or in vacuo. In general, the more rapidly the fish are dehydrated, the more rapidly the product can be rehydrated when needed for consumption.

The most up-to-date dehydration processes are employed in Germany. After the fish have been cleaned, eviscerated, scaled and decapitated, they are placed in presses and a certain amount of water is squeezed out. The fish are then placed in the dehydration chambers and a strong current of warm air, from which moisture has been extracted by passing the air through concentrated sulphuric acid, is lead through the chambers containing the fish. The final product possesses a good appearance and good keeping qualities.

The roes of mullet may be dried by being placed unbroken in tubs where they are either salted or brine is poured over them. About five quarts of salt are used for 100 lbs. eggs. The roes are left for twelve hours and then drained and spread out on boards in the sun until dry. This takes about a week.

Further information may be obtained from the following works :—

Seale, A.—“ Preservation of Commercial Fish and Fishery Products in the Tropics.” Philippine Journ. Science 9 (1914) Sec. D. 1-16.

Stepenson, C. A.—“ Drying Fish by Artificial means.” U.S. Fish Commission Bull. 18 (1898) 420-424.

The presence of large quantities of prawns around Mombasa makes it necessary to add a few remarks on their preservation.

It is established that the edible portion of fresh prawns compares very favourably with fresh fish in protein content.

Prawns, after being decapitated, may be packed in ice in barrels ready for transportation. It is necessary to remove the heads, and the bodies should be thoroughly washed and refrigerated as soon as they are landed.

Prawns may also be cooked in brine, the bodies being placed in wire baskets and dipped into boiling 15 per cent. brine for twenty minutes. The cooked product is then cooled in a coolchamber to about 32° F. and then packed in sealed packages surrounded by ice.

A further method employed is that of sun-drying, the prawns being spread out on specially erected large wooden platforms after having been boiled for a sufficient length of time in a salt solution.

IV.—PRINCIPAL FISHING GROUNDS.

According to my own investigations and judging by reports I have received from various sources the chief fishing grounds at present exploited on the coast of Kenya are located at the following places :—

*1. *Malindi*.—The reefs protecting the entrance to the bay and the sand banks lying to the south of Vasco da Gama point.

2. *The Islands of Tula and Tovai lying between Birikau (Port Durnford) and Kismayu*.—For reasons already advanced, these grounds lie too far afield from Mombasa, which would appear to be the best place for establishing a base for fishing operations, and are therefore not of commercial importance.

3. *The Lamu Archipelago*.—Here the same argument advanced in para. 2 above holds, but local demand could probably be sufficiently catered for by this ground.

*4. *Kilifi*.—The grounds outside, and the creek both here and at *Takaungu* further south, appear to be promising.

*5. *Mombasa*.—The ports like Tudor, Reitz and certain creeks are at present being exploited (notably by means of fish traps) as are also the reefs just outside the entrance to the harbour.

*6. *Gazi, Funzi and Vanga*.—Here also fishing is carried on on a fair scale, some dried fish being sent to Mombasa.

At all the places I visited it was very evident that the supply of a good variety of fish is established and that, provided sound methods of capture, preservation and transport were adopted, the establishment of an industry should prove lucrative.

V.—FISHERY LEGISLATION.

As far as legislature for the protection of fish is concerned, no definite restrictions have as yet been imposed. At present Ordinances No. 3 of 1908 and No. 29 of 1923 provide that :—

* The places marked by an asterisk (except Funzi) were personally examined by me. The others were too far afield and were not considered practicable from an economic point of view.

1. The Governor in Council may from time to time make Rules for any of the following purposes, that is to say :—

(1) To provide for the more effectual protection and improvement of fish, and the government and management of any rivers, lakes or waters in which fishing may be carried on.

(2) For imposing and prescribing conditions for the regulation of fishing.

(3) For the registering of all boats, nets and stakes employed in fishing.

(4) For determining the times and seasons at which the taking of any species of fish shall commence and cease.

(5) For the issuing of licences to persons authorised to take any species of fish.

(6) To prescribe the fees to be paid for or in respect of any licence or registration issued or made under Rules under this Ordinance.

(7) To provide for and regulate the description and form of nets to be used in fishing, the size of the meshes thereof, or the prohibition of any special description or form of nets or meshes or any machine, instrument or appliance whatsoever tending to impede the lawful taking of fish or to be in any manner detrimental to the preservation or increase of fish.

2. The Governor may fix such penalties for the breach or non-observance of any Rule as he may think proper, not exceeding a fine of thirty pounds for each offence, and in default of payment thereof imprisonment of either description for a period not exceeding three months, and where no penalty is imposed by the Rules the breach or non-observance of any Rule shall be punishable to the extent aforesaid.

3. Any Rules under this Ordinance may authorise the seizure of any net, stake machine, instrument or appliance possessed or used or suspected of being used in contravention of any Rule under this Ordinance, and the confiscation of the same in case of a conviction.

At the present juncture it is not possible to suggest any constructive legislation, especially as far as paragraph 4 is concerned, but I suggest that in the case of crawfish (crayfish or lobster) a size limit of 4 in. carapace length measured from the spine or rostrum between the eyes to the end of the carapace be imposed, and that it shall be declared illegal to catch any female crawfish which is carrying eggs attached to the swimmerts—commonly described as being “in berry.”

As far as paragraph 7 is concerned, I suggest that for the present no further permits for the construction of fish traps in the creeks be issued.

The present number of such fish traps licensed in the vicinity of Mombasa is 100 and this number appears to be sufficiently large for present needs.

Under this heading I include also the enforcing of necessary sanitary laws. Visits to the various fish markets have convinced me that these laws, if present, are certainly not being enforced. It is absolutely essential that such markets should be kept scrupulously clean and the tables should be scrubbed thoroughly every day. A very objectionable habit is that of expectoration. The practice is common and should be prohibited under penalty of prosecution.

VI.—FISH-FERTILIZER AND BY-PRODUCTS INDUSTRY.

I do not think that it is possible at the present juncture to take any steps in the direction of the establishment of a fish fertilizer and by-products industry. Such ventures must necessarily be dependent upon the establishing of a successful fishing industry in the first place and should then follow as a natural sequence.

That there is a large and ready sale for fertilizers is apparent and the Department of Agriculture would be alive to the value of such products for agricultural purposes.

I merely give a list of fishery by-products with standard works of reference which could be consulted if it is desired to develop this essential branch of the fishing industry.

A. Fish Oils.—“The Utilization of Fish and Marine Animals as Sources of Oil and Manure.” I. Oils; II. Manure. Bull. Imp. Inst. 12 (1914) pp. 251-273; pp. 429-442.

B. Liver Oil.—In connection with this it is noteworthy that numerous sharks and dogfish are prevalent in these waters and that the liver oils prepared from these sources compare very favourably with that of the cod.

Rogers, A.—“Industrial Uses of the Shark, etc.” Chem. Eng. 27 (1919) 135-6.

C. Fish Scrap Fertilizers. *Cligny, A.*—“Fish as Fertilizer.” Ann. Sci. Agronomy. 3rd Series 1 (1906) 166-187.

Turrentine, J. W.—"Utilization of Fish Waste for Manufacture of Fertilizer." U.S. Dept. Agric. Bull. 150 (1915).

D. Fish Meal.—This is an excellent source of protein for poultry and for growing livestock. *Tressler, D. K.*—"Marine Products of Commerce," pp. 465-474.

E. Manufacture of Leather from Sharks. *Rogers, A.*—"Shark-Skin Leather," *Journal American Leather Chemists Assoc.* 13 (1918) 528-530 and also that cited under B above, pp. 135-136.

VII.—GENERAL CONCLUSIONS AND RECOMMENDATIONS.

The following points strike me as the most important and deserve the urgent attention of the Government if it is desired to foster the fishing industry and improve it along sound economic lines.

The marine resources of Kenya are undoubtedly immense and valuable.

The present methods of fishing should be revolutionised and developed along modern lines. Concurrently with this the methods of fish preservation should also be developed. I wish to repeat the suggestion that the Government should procure an experimental decked-in motor fishing boat so as to establish a precedent which I am sure will speedily be followed. Such a boat would cost about £300 sterling and should be used along the lines I have advocated above.

A scientific investigation conducted by a fully equipped trawler into the potential trawling areas should be sponsored. I shall make the necessary enquiries as to the likely cost of such an experiment on my return to the Union of South Africa and shall submit a detailed statement to the Kenya Government.

Enforcement of sanitary regulations in the various fish markets so as to ensure the clean handling of fish for food purposes.

Assistance to be rendered to fishermen in the construction of crawfish pots as previously described, so as to determine the magnitude of the supply of these crustaceans with a view to establishing canneries.

Concurrently with the provision of a motor vessel, the potentialities of line fishing in the deeper waters, up to the 100 fathom line, should be investigated with a view to their exploitation.

That for the present the number of fish traps be limited and no further additions to the present number be permitted.

At present about 40,000 lbs. fish, valued at £3,900, is caught. There are 212 boats, 442 canoes, 175 fish traps and 1,755 persons employed in fishing.

The following statistics are taken from the 1925 Kenya Blue Book :—

		1922	1923	1924	1925	1926
IMPORTS OF FISH—						
Salted, Pickled or Dried	.. Cwts.	6,498	6,319	5,587	6,467	6,627
"	£	5,886	8,556	7,356	8,169	9,427
Canned .. .. .	.. Cwts.	202	443	987	1,331	2,088
"	£	1,831	3,282	6,773	9,441	14,861
EXPORTS OF FISH—						
Salted, Pickled or Dried	.. Cwts.	267	565	744	319	195
"	£	644	676	1,321	681	207
REVENUE—						
Salted, Pickled or Dried	.. £	1,130	289	327	481	660
Canned	£	336	661	1,361	1,887	2,975

C. VON BONDE,
Marine Biologist.

Mombasa,

3rd November, 1928.

Kenya

GAME DEPARTMENT
ANNUAL REPORT,
1927.

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GAME DEPARTMENT.

Annual Report, 1927.

1. STAFF.

(A) Officers available during 1927.

Captain A. T. A. Ritchie was on duty throughout the year.

Captain K. F. T. Caldwell, after being in bad health for some months, left the Colony on leave on February 23rd; he has recently returned.

Mr. F. H. Clarke returned from leave on January 8th, and was on duty for the remainder of the year.

Captain R. Whittet was on duty throughout the year. He was Acting Senior Assistant during the absence of Captain Caldwell.

Mr. R. E. Dent was on duty throughout the year.

Mr. C. G. MacArthur became a member of the Department on February 1st, being transferred from the Police Department, and was on duty for the remainder of the year excepting for a short period of local leave granted to him on nuptial grounds.

The following table shows the officers available during the various months:—

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Capt. A. T. A. Ritchie ..	1	1	1	1	1	1	1	1	1	1	1	1
Capt. K. F. T. Caldwell ..	1	1										
Mr. F. H. Clarke ..	1	1	1	1	1	1	1	1	1	1	1	1
Capt. R. Whittet ..	1	1	1	1	1	1	1	1	1	1	1	1
Mr. R. E. Dent ..	1	1	1	1	1	1	1	1	1	1	1	1
Mr. C. G. MacArthur ..	-	1	1	1	1	1	1	1	1	1	1	1
Total ..	5	6	5	5	5	5	5	5	5	5	5	5

Average 5.03

(B) Clerical Staff.

Mr. P. A. de Souza was on duty throughout the year.

Mr. W. Pouponneau went on leave in August and returned early in the new year.

(C) Honorary Game Wardens.

The following gentlemen were appointed during the year :—

Kenneth Percy Collingwood McIvor, Esq.

Thomas Penny Robeson, Esq.

The following gentleman resigned his appointment :—

Herbert Frederick Morison Maidment, Esq.

The total number of Honorary Game Wardens at the end of the year was 37. A nominal list is here appended.

Captain E. Hutchinson, Athi River.

Major R. M. Bradshaw, Limoru.

Major E. P. H. Pardoe, Eldoret.

F. H. G. Greswolde-Williams, Esq., Kijabe.

J. E. C. Hutchinson, Esq., Athi River.

Hon. H. T. Martin, Nairobi.

Major A. W. Conduit, Njoro.

Captain J. McDonogh, Isiolo.

G. Colvile, Esq., Gilgil.

The Hon. R. F. Carnegie, Laikipia.

Captain Gwynne Mervyn Jones, Gilgil.

Lieut.-Colonel J. A. Pollock, Nanyuki.

A. F. Dudgeon, Esq., Rongai.

Oswald Dixon, Esq., Nairobi.

Major Sydney Armstrong, Nanyuki.

R. E. Anderson, Esq., Kedong Valley.

H. C. C. de la Poer, Esq., Nyeri.

Major J. W. H. D. Tyndall, Rumuruti.

M. A. Black, Esq., Nairobi.

F. H. Jordan, Esq., Thika.

G. A. Heath, Esq., Nakuru.

Captain A. B. Allison, Nakuru.

Major Cyril Luxford, Rumuruti.

Henry H. Tarlton, Esq., Nairobi.

P. R. Heard, Esq., Soy.

W. C. Klapprott, Esq., Eldoret.

H. Wreford Smith, Esq., Eldoret.

A. G. Lindsay, Esq., Kitale.

D. A. Shaw, Esq., D.C.M., Nairobi.

W. S. Trevor, Esq., Makuyu.

Hon. D. Finch-Hatton, Nairobi.

H. Kenneth Coates, Esq., Masongaleni.

W. H. Hoey, Esq., Kitale.

Major C. Steele, Ngong.

Major P. G. W. McMaster, Thika.

K. P. C. McIvor, Esq., Nairobi.

T. P. Robeson, Esq., Chania Bridge.

It is with great regret that I have to record the loss from the number of our helpers of one who has for years been of much assistance to this Department, at first unofficially, and more lately as Honorary Game Warden.

Mr. Alan Crossman, in spite of misfortunes and vicissitudes, was a good friend to us till the last, when he succumbed to a severe attack of blackwater fever.

(D) Native Scouts.

The provision on this score in the Estimates proved insufficient for an adequate force of both game and fish scouts, and in consequence certain areas and a number of rivers did not receive a proper attention. It is satisfactory to note that during the current year both branches are rather more generously provided for.

(E) Agents.

I mentioned in my last report that the number of our agents is decreasing. Such tabitude continued during the year, individuals finding it increasingly difficult to obtain results which would justify the payment of considerable rewards.

2. ACCOMMODATION.

I am glad to be able to report that the Department is now adequately housed. The sole remaining desideratum, a house for scouts, agents, etc., close to the office has been erected.

3. CORRESPONDENCE.

The repeated warnings issued to the public that letters on official matters should be addressed to " The Game Warden " and not to any officer nominally, have had considerable effect, with the result that there has been less misunderstanding and delay. A request for an export permit, however, addressed to me in person, found me half way down the Tana; the permit was some three months late. Another letter addressed " His Majesty's Captain A. T. A. Ritchie " fortunately found me in the office, and was attended to absolutely immediately.

Recent remarks, in various quarters, have made it apparent that there is a belief generally current, that my office has little correspondence to deal with, and that the advent of a letter summonses the whole available staff who proceed to gloat thereat.

Such unhappily is far from the case. On two occasions recently, successive Mondays, the pile on my table appearing somewhat larger than usual, I took the trouble to count the envelopes: the score was 84 and 91 respectively.

4. REVENUE.

(A) Licences.

The sum realised by the sale of Game, Game Bird, and Trout Fishing Licences during the year was £15,478. This was composed as follows:—Game, £14,454; Bird, £650; Trout, £374.

The two latter figures are very similar to those under the same heads for 1926, while the Game Licences show a decrease of some £920. This drop is accounted for by the fact that during 1927 there were only 24 Visitor's Full Licences taken out, as against 35 in 1926, representing a difference of £1,000. The reason for this decrease in the number of visitors will be explained elsewhere in this report.

The following comparative table, giving the number of the several licences over the last six years, is of interest:—

LICENCES	1922	1923	1924	1925	1926	1927
Visitor's Full	28	35	26	56	35	24
Visitor's Private Land ..	..	2	33	38	43	25
Resident's Full	90	156	293	367	373	425
Resident's 14-day	55	115	133	102	140	108
Resident's Private Land	173	515	646	744	765	817
Native Employees .. ..	..	25	18	22	27	30
Bird .. .. ..	..	..	954	1,208	1,324	1,300
Elephant, 1st	30	58	111	168	173	170
„ 2nd .. .. ..	..	..	37	57	57	64
Rhino, 1st	44	62	76	112	117	157
„ 2nd .. .. ..	..	..	9	9	11	17
Giraffe	3	5	3	14	8	..
Ostrich	3	2	2	4	4	..
Trophy Dealer's .. ..	..	12	54	72	98	137
Game Dealer's .. ..	..	..	4	4	7	7
Traveller's	168	190	..	..	..	..
Special Licence (on Governor's Authority) ..	..	..	..	..	9	4
Total Revenue £	5,224	8,294	11,499	17,681	16,490	15,478

The following analysis table of licences issued during the year is also of interest.

LICENCES	European	Indian	Goan	Arab and Somalis	Native	Total
Visitor's Full £100	24	..	..	..	..	24
Visitor's Private Land £10	25	..	..	..	..	25
Resident's Full £10	409	14	..	2	..	425
Resident's 14-day £3	106	1	1	..	..	108
Resident's Private Land £2	805	4	1	7	..	817
Native Employee £2	30	..	..	..	..	30
Bird Shs. 10	630	320	102	118	130	1,300
Elephant, 1st (under Resident's Full Licence) £15	160	1	..	1	..	162
Elephant, 1st (under Visitor's Full Licence) £15	8	..	..	..	..	8
Elephant, 2nd (under Resident's Full Licence) £30	62	..	..	1	..	63
Elephant, 2nd (under Visitor's Full Licence) £30	1	..	..	..	..	1
Rhino, 1st (under Resident's Full Licence) £5	137	3	..	1	..	141
Rhino, 1st (under Visitor's Full Licence) £5	16	..	..	..	..	16
Rhino, 2nd (under Resident's Full Licence) £10	12	..	..	..	..	12
Rhino, 2nd (under Visitor's Full Licence) £10	5	..	..	..	..	5
Giraffe (under Resident's Full Licence) £15	..	..	..	..	..	..
Giraffe (under Visitor's Full Licence) £15	..	..	..	..	..	..
Ostrich (under Resident's Full Licence) £5	..	..	..	..	..	..
Trophy Dealer's £1	34	71	1	28	3	137
Game Dealer's £1	7	..	..	..	..	7
Special Licences (issued on Governor's Authority) ..	4	..	..	..	..	4
Duplicates of Lost Licences Shs. 10	3	..	..	..	..	3
Yearly Trout Licences £3	74	..	..	..	..	74
Fortnightly Trout Licences £1	154	..	..	..	..	154
Total ..	2,706	414	105	158	133	3,516

(B) Ivory and Confiscated Trophies.

The revenue from the sale of Government ivory and confiscated trophies amounted to £15,532, being £852 in excess of the figures for 1926.

accordingly resorted to illegality to compensate for reduced facility. Thus several cases came to light, where parties, intent on stripping the hide from the wily-grown buffalo, had fired volleys blindly at a herd, not disdaining a tree platform and the mantle of darkness to abet such gross deeds. Others with similar, if not higher, arboreal proclivities, harried the unhappy elephant at his nocturnal bibations. There were at one time two carcasses of elephants lying rotting in the Tsavo River, the water polluted for miles below. For the most part, however, such tactics were adopted at waterholes.

Shooting of this kind does an infinite amount of damage. In "browning" a herd, cows and *totos* are by far the greatest sufferers, unless one considers subsequent visitors to the vicinity, who may well be the innocent victims of a vengeful counter-attack on the part of the exasperated and agonised brutes, which have failed to succumb to the hitty-missy fusillades.

In the vicinity of Nairobi itself there was considerable random shooting by night and day: against kongoni, and to a lesser extent zebra and wildebeeste, as being meat carriers, was directed the largest share of the leaden hail. In the majority of cases such bullet sprayers held full licences, and it was not easy to check them on legal grounds. The inherent fault in the Game Ordinance, as at present constituted, lies in the fact that in drafting it the fundamental mistake was made of supposing that every man with a rifle is a sportsman; would that such hypothesis had any basis on fact; I should ere now have achieved professorial status on the subject of East African fauna, instead of merely qualifying as a second-rate sleuth. The recently drafted amendment to the Game Ordinance has the necessary provisions for rendering game safe from the attacks of the meat and hide purveyor; while it can do much to assist in the suppression of another abuse which has assumed alarming proportions during the year: night shooting from cars, both on crown land and private property. The latter form of poaching is one presenting considerable difficulties in stamping out. Natives can do little or nothing towards bringing the culprits to book, while our efforts only too often involve long fruitless vigils on nights of unbroken tranquility. Even should we be so fortunate as to hit on the time and place of a foray, a car, most often one for which the driver has scant regard, since broken springs cost less than broken laws, and he does not intend to be caught, such a car, running with lights out over the plain and broken bush, is not easy to close with.

With the multitude of urban holders of game licences, it is evident that the game in the vicinity of Nairobi, outside the Reserve, must go. It is a source of damage and, further, an inducement to lawbreakers to take a risk. Even so, its passing should not be brought about in an orgy of swinging legs, and a disregard for the laws of the Colony and humanity. Our failure, and I consider that we have largely failed to suppress the nefarious activities of the local "stiff," is a matter for severe dissatisfaction, the more so that I have found no short cut to success in this direction.

If my Department had at any time needed a safeguard against complacency, such is perpetually furnished by the possibilities of that deadly enemy of game preservation—the motor car. I have no doubt that elsewhere, in the last generation, worried wardens have said the same of breech-loading weapons; similarly my successors will mention with malediction the evil potentialities of aeroplanes. Under civilisation each age, each year even, has its own problems to beset the harassed game-keeper and, of course, the present problem is always the most difficult; but past problems have been solved—for if they have not, nature has intervened and removed the crux, to the lasting regret of those whose patience or perspicacity were unequal to finding solution—and I have hope that we shall, legislation assisting us, find means to cope with the menace of the motor.

(B) Natives.

By far the most widespread and serious aspect of native poaching is the killing of elephant and rhino. Giraffe suffer, but to a minor extent, for although they are much prized by many tribes, they are for the most part fairly well able to look after themselves in areas where they are subject to attack. It must astonish those of us who are accustomed to see giraffe in the Southern Game Reserve or in other areas where they are immune from molestation, to contrast the behaviour of these animals in a hostile zone, such as the South East Wakamba bush. There, going quietly, you may at times see a distant head or a bit of a neck, and the next moment the herd is crashing off on a non-stop run of miles. I am glad to say that in only one corner of the Colony have I found those most effective of native weapons for giraffe killing—pits; these were, when I visited the area in the vicinity of the Ziwani swamp near Taveta, several years old and derelict, having been dug, so the local inhabitants would have it, by "the bad people from over the (Tanganyika) border."

Giraffe are valued for a number of reasons: meat, hide, tendons for bowstrings, and tail hairs all being utilised, the latter having a ready market for the fashioning of bracelets and other articles of adornment, as well as being used by the natives themselves for binding arrows, bows, etc.

Of the killing of elephant and rhino in the Northern Game Reserve and adjoining areas, mention will be found elsewhere in this report.

In Ukamba Province there was an undoubted amelioration, due largely to the interest and co-operation of all the Administrative Officers concerned. Wakamba excursions to the North West into the Kinna area, and much more seriously to the East with the connivance and even the assistance of their friends the Galla, took place; as well as minor raids into the Southern Game Reserve, of which more anon. Hunting on the Wakamba-Wagalla borders has always proved a difficult matter to deal with, the more so that any attempts to administer the Wagalla have been of a spasmodic nature, and their henchmen the Waboni and Wasanya have long pursued their venatorial activities with considerable immunity. It is believed that a serious attempt is now being made to cope with the situation.

I am glad to be able to record that, before the end of the year, had been laid the essential foundations for a vigorous campaign in the country of the Wasanya and other Wanyika tribes in the Kipini-Mombasa hinterland; and that such campaign has since been attended with the utmost success, much ivory being recovered and a vital blow dealt to the main stem of the ivory ramifications throughout the area. Details of the matter will be furnished in my report for the current year.

The one portion of the Colony where general poaching by natives exists, is the Chepalungu forest. There is little game of value to be found in it, the greater portion having already succumbed. We have neither the money nor the personnel, supposing that the considerable necessary expenditure of either were justifiable with which to attempt to rehabilitate this forest as a game area, and the suggestion recently made that it should be constituted a Game Reserve would, if carried out, effect little or nothing; for the one primary essential of a game reserve is that it should be capable of adequate conservation which, by its quality, it must justify and repay.

(C) Illegal Ivory Traffic.

As yet no cessation of elephant killing in the Biscaya-Kiunga areas, and the consequent crossing of ivory into the nearby foreign territory, can be noted. It is unnecessary—it might indeed jeopardise the situation—for me to reiterate the details of the present position with regard to cognate negotiations; there are confident grounds for the anticipation of a considerable amelioration at no distant date.

I have long held the opinion, and all my recent information goes to confirm it, that there are two main outlets for illicit ivory and rhino horn from the Colony. The northern, or overland, carries the results of poaching in the country lying north and east of the Tana from Kiunga to the Lorian Swamp. The southern, or seaborne, serves the country south and west of the Tana, including Wakamba, Wagalla and Wanyika; it leaves the Colony at, or near, a number of coastal towns and villages: Mkunumbi, Mambui, Kilifi, Takaungu and till recently Mombasa itself. Both end in Italian territory, whence, export papers in proper form being attached, the ivory and horn issue forth, attired in the full panoply of a tardy legitimacy.

Some ivory and more rhino horn finds its way into Abyssinia, but I believe the amount is comparatively negligible.

(D) Prosecutions.

The advent of an additional officer to the Departmental staff enabled the activities of various professional shooting safaris to be thoroughly investigated, with the result that there was a heavy crop of prosecutions. I am glad to be able to report that there were no such glaring cases of serious game offences being punished by trivial sentences as have before disheartened us and encouraged the poaching ivory, hide or meat-monger; magistrates throughout the Colony recognising the importance of making "the punishment fit the crime."

I have no exact figures of the total number of prosecutions during the year, but it can safely be said that there were many more than during 1926, and in consequence many more than there will be during 1928.

6. DAMAGE BY GAME.**(A) General.**

More trouble than has been customary in recent years, was reported from various parts of the Colony, and on various scores. The inability of my Department to do more than

sympathise, in the great number of cases, is a source of mortification to us, and of irritation and criticism to the unhappy sufferers. Various indictments may be examined under their relative headings.

(B) Elephants.

Complaints of shamba raiding and destruction by elephants in the Thomson's Falls and Marmanet areas were received; fly, as I mentioned in my last report, appear at times in the Marmanet area, and the blame for such spasmodic occurrences must also be laid on their backs, for on such, it appears, the pestilential insects ride.

At Meru considerable damage was done to native shambas on the hill slopes, during the seasonal migrations to and from the upper forest-clad slopes and the lowland bush plains.

In South Kavirondo also inroads among native cultivation were a source of loss, though I imagine to a lesser extent than in former years, owing to the fact that a large number of the elephants in the south-west of the Colony appear to have migrated permanently into Tanganyika Territory.

(C) Rhino.

Rhino again became troublesome in the Nyeri, Ngobit and Narro Moru areas, and a number were killed. Of all animals the rhino is the least susceptible to the modifying influence of civilisation, and uncompromisingly sets his face against the "live and let live" code which all must subscribe to or go. Thus, in the settled areas go he must, for his resentment at the intrusion of his privacies is implacable, and too forceful for toleration, even by those whose veneration for the vagaries of nature and the remnants of a patriarchal age would grant him sanctuary.

(D) Buffalo.

In sharp contrast to the rhino, these beasts are, probably of all game animals the most difficult to cope with, since they adapt their tactics speedily and adequately to the strategical necessities of their environment.

Where they are unmolested you may find them grazing in full open through the cooler hours of the day, seeking shelter only from the swelter of noontide; behaving indeed with all the bovine placidity besung by rustic poets. See another herd whose hides have endangered them, or whose choice feeding grounds are in the laborious gardens of mankind. I say "see" them, but see them you will not, save

perhaps on some night of a fine full moon, when from the midst of a choice young shamba of wheat or maize a ghostly mass of dim seen but heavy hoofed forms, glimpses for you the retreat of the marauding herd. For where they are molested by man, buffalo retire before first glimmer of dawn to the densest of thickets, there to remain till darkness again descends. In their forest hiding places they are most difficult to approach, lying silent and wary. Following with infinite caution the recent spoor of a herd, you may see the undergrowth close on a black stern as the herd crashes off, or more rarely that undergrowth open on a vicious head which maternal care or an old bullet wound impels to try conclusions with you.

It is a difficult and dangerous pastime to try to kill off such a herd and, in consequence, there are a number of areas in the Colony where buffalo continue their nocturnal maraudings year after year with a considerable immunity.

On the Mau, Laikipia, the West Kenya uplands, and the Tana River banks, there are herds which deserve no consideration and would get short shrift if any feasible means could be found to destroy them.

(E) Hippo.

These animals are responsible for considerable damage along the Lake littoral; in Kisumu itself the notorious "Horace," who continued to yawn at belated revellers and defile carnation beds, lasted out the year, although his death warrant had officially been signed.

In the Tana mouth also, the last stronghold of the great beasts on that river, they ensured their ultimate extinction by an inability to confine their meals to the fare which nature unaided provides.

(F) Zebra and larger Plains Game.

In most of the agricultural areas of the Colony the zebra pest is happily a thing of the past, the concerted attacks, bred of spoiled crops and the price of hides, having killed many and driven the rest to search for pastures new. In the Mua Hills and Athi River area, as formerly, zebra in common with kongoni, wildebeeste, grant and tommy, plagued the settlers during the dry weather. It is to be hoped that a prospective buffer between the Game Reserve and the settled areas in that district will shortly materialise.

Wildebeeste, in the south-western portion of the Masai Reserve, occasioned complaint on the part of those responsible for Masai administration, in view of the amount of grass and water which the vast herds consume and also of the fact that they foul the ground where they calve down, causing *snotsiekte* in the Masai cattle. If any attempt is to be made to reduce the numbers of these animals in that area, it will have to be in concert with the Tanganyika authorities, and on a huge scale, since there is over our borders an apparently inexhaustible wildebeeste reservoir, and any localised action would merely engender a minor stream of equalising migration.

(G) Various.

While considering other and more localised damage by game, mention must be made—one hates to speak of it—of the unhappy fact that in Trans Nzoia, giraffe have alienated many of their best friends. It is surely "*Et tu Brute!*" when these favoured giants turn thief, for among animals they occupy a unique place and it is a perverted travesty of humanity indeed whose blood lust pulls trigger for the sake of seeing them fall. There are many who, disliking game and the Game Department impartially, will yet come and give us information if a giraffe is killed. The immunity from molestation has given them wrong ideas, for they appear to believe that wheat, maize, and coffee shade trees have been planted for their special delectation, and neither imprecations swelled by beaten tins, nor the more penetrating message conveyed by buckshot will serve to disabuse them. An attempt is to be made shortly to explore the possibility of driving herds from their present habitats to suitable localities where there is no cultivation.

I confess that for several reasons I have little confidence that such methods of solving the problem of their defection will succeed.

The fact that these animals, whose normal food consists largely of thorns, sharp as needles and nearly as hard and dry, have taken to eating young lush maize and wheat, forms a somewhat sad commentary in the amazing history of the adaptability of nature.

There has been another, and less curious source of damage to growing crops during the year under review, on the Uasin Gishu Plateau. Oribi and reedbuck are there in almost incredible numbers, their increase being mainly due, I should surmise, to the decrease, incidental to settlement, of leopard,

cheetah, hyaena, jackal and other voracious meat eaters. It is stated that on one farm alone some 400 oribi and reedbuck were killed during 1927, and yet there was no apparent diminution in their numbers. The profusion of these two attractive animals—attractive I mean when not amongst one's young crops—provides an illuminating illustration of the riot in which nature indulges when her balance is disturbed.

(H) Ostrich and other Birds.

In the Athi River district, where ostriches are very numerous, a number were shot when marauding. They are most tenacious in habit, and the loss of pa, ma, and several brothers and sisters will not necessarily serve to drive them off.

There are in my opinion too many of these birds in certain areas, and if the recent fall in special licence fee is not sufficient to reduce their numbers it may be well to return them for a time to the third schedule of the Game Ordinance.

Numerous complaints were received during the year of the newly developed grain-eating propensities of Kavirondo Cranes. I say "newly developed" since I had not heard previously of other than occasional and isolated instances, whereas during 1927 from many directions came stories of large flocks following the seeders for all the world like seagulls on a Norfolk plough. It appears that they must be taken off the list of Royal Game birds and placed on the Bird Licence schedule for a time.

(I) Vermin.

The troubled question of vermin was as prominent as ever during the year.

Baboons and bush pig are the chief offenders, though hyaena, especially in the Rift Valley, have acquired an unenviable notoriety and may in the near future call for concerted action.

On the subject of vermin destruction the following extract from a circular letter sent out recently by the "Society for the Preservation of the Fauna of the Empire," contains suggestions made by Sir Frederick Jackson, late Governor of Uganda.

"Carnivora should be dealt with by poison, but not as it was done in Kenya, by stuffing a bait with strychnine and leaving it to kill off vultures, marabous, ravens and crows. Small flags of red bandera would scare the

birds by day, but not lions and leopards by night. Pigs can be and should be dealt with by poison or periodical drives as is, or was, done in Busoga.

Poisoning is best done by *arsenic* and not by *strychnine*. Dr. Stuhlmann, when Acting Governor in G.E.A., dealt with a plague of pigs that practically depopulated the districts near Tanga. The method was quite simple, but must be done under European supervision. All that is required according to the area to be dealt with is:— (1) bundles of pointed sticks, for marking purposes; (2) corn-cobs as bait, preferably green ones; (3) crude arsenic. A shamba is then selected and the pigs' runs in the adjoining bush located and marked by a stick. Near this stick and a few yards apart are placed four or more other sticks for the purpose of marking the *exact position* of the corn-cobs. The number of sticks at each spot should be the same. The corn-cobs are then dosed by being slit lengthways on two sides and for half their length, the husk neatly prised up and arsenic, enough to lie on a sixpence, inserted between the husk and the grain, and then pressed back into position. Enough cobs should be dosed so that the *same* number (whether four, five or six) are placed in a little heap close to each stick. They should be carried in a basket that can be burned when no longer required.

Next morning at dawn the shamba is visited, and the remaining cobs collected and replaced in the basket for safety, and to enable a complete record of the poisoned baits being kept.

Dr. Stuhlmann told me that this method was so successful that the first morning *forty* dead pigs were found in the open, and he had no doubt that there were others hidden away in the thick bush."

This method is somewhat similar to the one suggested in my report for 1925 except that arsenite of soda was therein recommended.

(J) Control.

A consideration of the above somewhat formidable list of indictments leads naturally to the question of remedies; these I propose to discuss in a subsequent part of this report, for they are inextricably bound up with the whole policy of game preservation and its adequate enforcement.

7. DEPARTMENTAL ACTIVITIES.

During the year I was able to visit two parts of the Colony which were previously unknown to me, the Northern Frontier Province and the Tana River area. Indeed I was able, owing to the fact that Departmental affairs were on a somewhat more settled basis than formerly, to get away from Headquarters with greater frequency than had been the case in other years, with the result that I have a better working knowledge of game distribution and local problems of preservation than before. Even so there are a number of localities in Kenya which are still unknown to me; this disability I hope to reduce during the present year.

I visited the following places during the year under review: Mombasa for the Game Warden's Conference, Gilgil, Marmanet, Rumuruti, Meru, Garba Tulla and Muddo Gashi. In May I went by boat to Lamu, intending to safari back on foot to Mombasa. The flooded state of the country between Kipini and Mambrui thwarted this intention, for it would have entailed swimming, and amphibious porters. I had to content myself accordingly with the round which included Mkunumbi, Witu and Kipini; much of this country was knee-deep in water, and warmish water at that, so that after several days of it there appeared to be little difference in consistency between the mud outside one's boots and the feet inside.

In June, the reports of the Southern Game Reserve being most unsatisfactory, I paid a hasty visit to Kajiado and Kiu, and in August made a more comprehensive tour in the Reserve, visiting Kajiado, Lake Magadi, Namanga, Laitokitok, Mashuru, Selengei and Kiu.

In September I left Nairobi for the Tana River, going by Meru and the Kinna; and returned to Nairobi by Kipini, Lamu and Mombasa in November. I had been, for several years, anxious to acquaint myself with the Tana area, since it is of first-rate importance as a game country and the key to the illicit ivory traffic.

During December I accompanied His Excellency the Governor on his tour in the Northern Game Reserve, visiting Marmanet, the Loroghi Plateau, Barsaloi and Baragoi.

Notes on matters of interest arising from these safaris will be found elsewhere in this report.

Captain Caldwell, Senior Assistant Game Warden, left the Colony on leave in February in a very bad state of health, proceeding first to India for some five weeks. The object of

his visit was to examine and report on Indian methods of game preservation. At home he attended the Shikar Club dinner, and had conversations on various matters with the Committee of the Society for the Preservation of the Fauna of the Empire. He also, at the request of the Foreign Office, visited France and Belgium to discuss a possible scheme of international control of ivory and rhino horn.

Captain Whittet, as Acting Senior Assistant, was compelled to spend much of his time in Nairobi, being in charge of the office during my absences. At other times, from his base at Meru, he made such safaris as time and transport permitted about his area. An account of one such safari appears elsewhere in this report.

Mr. Clarke spent the year in the Masai Reserve and adjoining areas. His reports as to the Game in his area are cheerful reading; indeed he considers that on the Mara River there is as much game, with the exception of rhino and lion, as there has ever been in his experience.

Mr. MacArthur, who came to the Department in February from the Criminal Investigation Department, showed quickly that his temperament and training would be a very great asset to us. In one month alone—June—he took cases to court which resulted in fines amounting to £230. During the year he visited Mombasa, the Voi, Tsavo and Makindu areas, Ikutha, Kitui, Maktau and Taveta, Lamu, Witu, the Tana River up to Sankuri, where I met him in September. In November he made a safari from Anasa to Malindi; and in December a safari up the Sabaki River to Mount Logi. During the latter part of the year he was unfortunately down several times with very severe bouts of fever, and it is somewhat surprising that he was able to accomplish so much good work.

Mr. Dent worked throughout the year with his customary energy. The trout hatch was most satisfactory and catered for the needs of the majority of private and crown waters in the Colony.

He stocked all the rivers rising to the East of South Lumbwa, receiving great assistance in so doing, from Mr. Filleul, the District Commissioner at Kericho, and from many of the settlers. He did excellent work investigating conditions in trout streams in the Colony, and also produced some interesting notes on the cichlids which he had put into Lake Naivasha in August, 1926. The substance of the results

arrived at by him will be found elsewhere in this report. In September the fish survey of Lake Victoria Nyanza commenced. Mr. Dent was attached to this from its inception until the conclusion of the work, and the relative report gave ample testimony to the assistance rendered by him.

For the rest of the Department, the clerical staff worked with their usual application to compensate for their lack of numbers. I am glad to be able to report that no cases of misappropriation of wages by any of our scouts, such as have several times barred our Departmental escutcheon, came to light during the year. One untoward incident must be recorded. A scout working in the Game Reserve near Nairobi, allowing his zeal to overrule temporarily his manners, was banished for six months. His subsequent reinstatement, due to faithful service for several years in the past, was made possible by the clemency of the persons to whom his lapse had given cause for complaint.

In this connection it may be said that while my Department does all possible to impress upon such natives as it employs the fact that duty and politeness must be considered synonymous, and that the idea of an official status giving a prescriptive right to truculence—an idea to which the primitive mind is very prone—is a most mistaken one, it is possible that cases of incivility may occur from time to time.

It would be of great assistance if any such instances are reported to me forthwith.

8. GAME PRESERVATION.

During the year under review it became increasingly clear that we were, to a great extent, living in a fool's paradise. The main functions of my Department were the suppression of poaching—the killing of game without the possession of the appropriate licence—and the collection of revenue. The only real preservation that we were carrying out was in placing some animal that might have become scarce on the protected list in a certain area, and in policing the two game reserves. I became convinced that more was needed.

The opening up of the Colony from one corner to another with a network of roads, settlement in the white areas and increased agricultural activity in the native, these factors had already reduced the confines of the game zones. In addition, and far more significant, was the alarming extent to which the game zones themselves were being subjected to wholesale killing for commercial profit.

In common with a number of other of the less pessimistic lovers of the Colony's fauna, I firmly believe that there is no reason why Kenya should not be able to keep a fair head of game through the coming years, and that not in the Game Reserves alone, but also in many areas of small economic potentiality. To achieve this end, and there are few who will deny the desirability even if they decry the possibility, of achieving it, there are two main principles to which we must subscribe.

First, and probably foremost, we must ensure that the conflict between the developmental urges of the Colony in their various directions, and the presence of game, shall never become acute; as a principle this is in the nature of a platitude, but in practice it appears at times to those concerned more in the guise of a paradox.

Next, and of almost equal importance if we are to achieve our end, is the prevention of excessive shooting in the real game country. Moderate shooting will never exterminate our game. Wholesale killing can quickly reduce it to a point from which it will take years of closest protection to recover, always supposing that such point is not below the critical position whence even time can bring no recovery.

I am clear that there are certain broad lines on which we must work if we are to succeed in embodying these two principles in the game economy of the Colony.

In relation to the first it is essential that this Department should be in a position to institute some adequate form of game and vermin control. In no other manner can the clash of interests, in which game must inevitably be worsted, be avoided. The Game Ordinance gives all reasonable rights and powers to owners of property crops and herds to protect themselves. What it does not do, nor can any law, is to provide the means of so doing. To assist in driving off, and where necessity insists, killing off of depredating game and vermin from cultivation must be a recognised function of this Department, and to this end it will be necessary to augment its exiguous staff. An increase of staff on this score would be justifiable even on the barest financial grounds, since the direct revenue which would accrue would at once be at least equal to the cost.

To ensure that our real game areas, the vast spaces ill adapted to the toils of even the hardiest and most enterprising

probable that the suppression of the trade in meat and trophies obtained in such areas, will be an adequate solution for years to come. If and when further measures to restrict the amount of cordite burned in any part should become necessary, such may be done either by a reduction of the numbers allowed on the schedules or by increasing the licence fees or by a combination of both.

I am confident that by the syngenesis of preservation and control we can continue to produce revenue, to retain our game, and to take a necessary part in assisting the agricultural progress of the Colony.

We have here a fauna which in the world to-day is unique, both in variety and abundance.

It is indeed true that there are pockets elsewhere which can show, at certain times of the year, a congregation of some species equal to, if not greater than anything in Kenya. As an instance may be mentioned the now famous Serengetti plains lying in Tanganyika, south of our own Masai Reserve, where the enormous number of lions and the facility with which a motor could approach them, has recently lured so many of the shooting parties that would otherwise have hunted in Kenya. Already the results of its fatal facility are visible. Lions there are yet and in numbers, but you must look long and then have luck with you to find a warrantable beast. Again, Uganda and the Sudan have huge herds of elephant, but it is certain that they cannot compare with Kenya in the weight of ivory still obtainable.

The elephant figures of the last few years are literally astounding. Until comparatively recently a sportsman wanting to hunt for a really good elephant went almost automatically to Uganda. Yet from Uganda during 1927 there were exported, killed on licence, only five tusks of over 90 lbs., of these five, two only were over 100 lbs. And this from out of 165 elephants killed on licence.

Compare the Kenya figures for the same period. There were, during 1927, exported from Kenya from elephants killed on licence, 46 tusks of 100 lbs. and over, while the total of 321 tusks so exported, showed the almost unbelievable average of 63 lbs.

One might deduce from these figures that Kenya holds a practically inexhaustible store of gigantic bulls. Such, alas, is far from being the case. A reference to the licence figures in Chapter 5 (A) will show that this was the fourth successive

year of what may be called intensive elephant hunting. Several herds, notably the South Kisii, Aberdare, Meru and Marsabit, the first-mentioned more especially, had lost almost every big bull previous to the beginning of 1927. There still remained one large stretch of country with great possibilities. From the Tana on the north and east to the railway on the south was a vast bush area, much of which could be hunted at a comparatively small cost, using a lorry or a landie as a base. The fact that it still held, and indeed still holds, a number of fine tuskers, is due entirely to the fact that it had only recently been "discovered." The extent to which, even so, a part at least had been shot over, was evidenced by the testimony of an elephant hunter of some experience. During the first eight months of the year he had shot, or been present at the shooting of, seven elephants with an average weight of 90 lbs. per tusk.

Not one single bull of the seven but carried fresh bullet wounds. Several had obviously been shot at on more than one occasion, for they carried wounds of different ages. If anything were needed to point the moral of other territories, and in Kenya of other herds, those seven elephants assuredly do so.

Recognising that in this bush area there still remained the best elephants in the world, but that unless drastic measures were taken they too would shortly be a thing of the past, the elephant licence fees were increased and the area closed for a year. This action which has occasioned much criticism will, I hope, secure to Kenya for all time the position of the premier elephant ground. I can see no possibility of any other part of Africa competing for this title so long as we do not revert to the old philanthropy; but one can clear an area of 100 lbs. bulls at £15 a time with as much celerity as a sale at a popular emporium will dispose of its silk hose at 50 per cent. under.

In the case of rhinoceros also, Kenya stands well ahead. Even so with rhino horn at Sh. 35 and more a pound, and an even moderate pair of horns totalling ten pounds, the margin of profit on a £5 licence was too great. The rise in price of horn is reflected in the licence figures, and it became necessary to raise the first rhino licence fee, for although these animals must disappear in certain parts of Kenya, they are obviously a valuable asset in the game areas.

It appears thus, that while the problem of reconciling the onrush of civilisation with the existence of an indigenous fauna presents kaleidoscopic complexities, given certain essential

machinery and the requisite knowledge to run it and presuppose the intelligent co-operation and, maybe, at times forbearance of all the human interests involved, we shall win through and keep to a time far distant an asset which will grow in value from year to year.

9. NEW LEGISLATION.

In January a Proclamation proclaiming a close season for birds on Lake Nakuru, under the Game Birds Protection Ordinance, 1926, was gazetted.

In December Rules under the Game Ordinance, 1921, raised the fees payable in respect of special licences for elephant and rhino, and lowered the fee for an ostrich licence. At the same time Tanaland and Ukamba Province were declared closed for one year from January 1st, 1928, in respect of elephant hunting.

In December also, Rules under the Fish Protection Ordinance, 1908, introduced the 24-hour Trout Fishing Licence.

10. THE GAME RESERVES.

(A) The Southern Reserve.

The Southern Game Reserve acquired, during the year, an ill-merited notoriety in five continents. Extracts from the Press the world over drifted in, many of them telling such incredible tales as might well have burned the paper they were printed on. Headlines such as "500 man-eating lions ravage Kenya," "Kenya a land of terror," "Man-eating lions besiege Nairobi," covered accounts that would "give the glad go-bye" to Munchausen at his best.

It may not be out of place, accordingly, to briefly recapitulate what the conditions were, and how they arose, before I describe the means adopted to deal with them.

As I informed you in my report for 1926, the disarmament of the Masai, and the break up of the Moran system, had led to a modification in the normal demeanour of the lions in the reserve.

In former times, if lion killed Masai cattle, swift retribution overtook them. Some would be killed; while to others escaping, a spear would have a certain significance, and the carrier of it, a claim to respect.

Under the new regime, when a maiden could be won by wiles, and a spear, blooded on man or beast, was no longer essential to the amatorial armoury of the swain, nemesis assumed a less formidable aspect : this was quickly reflected in the altered attitude of the great beasts.

In consequence, when cattle were driven to graze in bush country, whereas formerly any lion lying up in the vicinity would have slunk away, now they remained, and if one of the herd should wander within easy reach, gratefully accepted the chance of an effortless meal. A number of herdsmen were mauled in attempting to drive lions off their kill, and it became clear that we should intervene. Traps, poison, and set guns proved of little or no effect, and stern measures were perforce adopted.

We were so fortunate as to secure the services of Mr. J. A. Hunter, who undertook, for four months, to hunt lion and leopard in the reserve. He was to work under the instructions of the District Commissioner as to localities. Further, since what we required was not only to kill lions, but to induce a better regard for man among those that remained, he was not to shoot more than a certain proportion by night. If a lion is shot over a dead zebra at night from a hide, it does nothing to affect the complacency of his companions : but if a lion is killed by day from among a troop, the rest appreciate the lesson.

Mr. Hunter did his work thoroughly and well, accounting for some 80 lions and 10 leopards. His experience tended to show that there were less lions than we had believed. I am glad to say that, since his activities ended, there has been little trouble reported, one or two isolated cases only having come to light. It is, I believe, intended to take certain administrative measures which will ensure that it can not again become necessary to have recourse to such drastic action.

I may add that I have no record of the existence of a man-eater in the Reserve, either now or during the past five years. The incident which most nearly justified such a designation, occurred several years ago at Mashuru, when a lion broke through a thorn boma within which a party of young men and maidens were in seclusion consuming an ox; one of the youths was killed, but there is no reason to suppose that the lion in question was not attracted by the beef.

For the rest, matters in the Reserve were much as usual. I counted 49 giraffe in one herd at Laitokitok. We found that greater kudu existed in several parts where their presence had

not hitherto been suspected. Several troublesome rhino were killed, and Mr. Hunter accounted for a rogue elephant. A suggestion was made that the Ngong Hills should be incorporated in the Reserve. This would be desirable from every point of view save one, but that one—the veterinary—prevailed.

The question of the creation of a fence, to prevent migrations of game over the northern boundary of the Reserve, was, for the time being, shelved, since it became clear that the present existing boundary had no finality and would indeed, in all probability, be modified.

(B) The Northern Reserve.

I made a somewhat hurried safari by car in the Northern Game Reserve during December. The safari was in two parts: firstly, to the west side of the Reserve, the Loroghi Plateau and Lake Kisima; then by Isiolo to Barsaloi, Baragoi and the vicinity of Mount Nyiro.

The country was very dry and little game was seen. A herd of hartebeeste in the vicinity of Lake Kisima proved of considerable interest, showing marked differences from any hartebeeste I have seen elsewhere. I hope to obtain more information on the subject during the current year.

On the eastern side of the Reserve, more of interest was noted. A very large herd of elephant had been feeding in the thick bush south of Barsaloi. Several rhino were seen on the open grass plains north of Baragoi. Lesser kudu and gerenuk were numerous in the bush country. The most striking object of interest, unhappily not on four legs, was a most perfect black leopard skin worn by a Turkana in an ngoma at Barsaloi.

The Northern Reserve, while containing a certain number of various species of game, is not, I consider, by any means one of our best game areas.

It is of value, however, as an elephant breeding ground, and for that purpose alone, as I believe, it was proclaimed; it certainly justifies its existence in such function, for the Matthews and Ndoto ranges, inaccessible and uninhabited except for a few very troublesome Wanderobo, is one of the most perfect elephant sanctuaries imaginable.

The following account of a safari by Captain Roy Whittet, in the Northern Frontier Province, deals mainly with the Northern Game Reserve and it is accordingly inserted here.

(C) A SAFARI IN THE NORTHERN FRONTIER PROVINCE.
By Capt. Roy Whittet.—June, 1927.

PART I.

(Accompanying His Excellency the Acting Governor,
Sir E. Denham).

MERU—ISIOLO—BARSALOI—ARCHER'S POST.

The convoy left Meru on 6th June and arrived at Barsaloi on the evening of the 7th having stopped the night at Isiolo.

At Isiolo, the usual zebra—both species—oryx and grant were observed, and towards "The Gap," a small herd of impalla; after that there was a marked scarcity of game until the Reserve was entered at the Uaso Nyiro crossing.

From there on to Barsaloi, game was very plentiful, rhino, oryx, grant, zebra, impalla, gerenuk and giraffe; a notable feature about the giraffe being that, on many occasions, I observed a male and female fully grown, accompanied by two young of exactly the same size, I have several times remarked this in the Northern Frontier areas which leads me to believe that giraffe frequently have two totes at the same time.

At Barsaloi.—I saw the District Commissioner. He told me that matters in the Game Reserve were generally quiet with exception of the Matthews Range, where the Wanderobo were as usual, poaching to a great extent. He is in favour of having these few people brought under control (and suggests that they come and live near the Boma). It will be clearly understood that game preservation and itinerant Wanderobo do not go well together.

From my own observations in the Game Reserve later on, on my way to and from Lake Rudolph, it was undoubtedly true that these Wanderobo are killing the smaller game on a very large scale. The District Commissioner, Marsabit, who was with me, was in favour of having these people put under close observation.

There had been rumours of Abyssinian raiders further north and the District Commissioner, Barsaloi, had just returned from Loiyian-Galani but had seen no signs of any people up there.

He again impressed on me the importance of the Laroki Plateau to the Game Reserve.

Unfortunately I have not been able to make a safari in that part to date, but hope to be able to visit there early next year.

He informed me that there is more game in that area than all the rest of the Reserve put together and that practically no poaching goes on up there.

The game in the Reserve all looked in excellent condition, the grazing was good and the District Commissioner stated that there was no disease among the buffalo.

Elephant were reported in large numbers on Laroki Plateau and also in the Mathews Range. I saw no fresh elephant tracks on the road.

I took His Excellency to inspect Mr. Rattray's camp at Isiolo and he was much impressed by the condition of the Grevy zebra in captivity.

Mr. Rattray was unfortunately away but we were able to see some of the newer catches and the small zebra which run with the cattle.

Mr. Rattray is making fresh experiments towards domestication of Grevy and two had been in harness for some time.

PART II.

MARSABIT.

The convoy left Archer's Post on the morning of the 10th June, His Excellency's car and mine arrived at Marsabit the same evening.

On the 11th June, His Excellency held a baraza, certain discussions of game generally took place.

His Excellency told the Rendille and the Gubbra, that the poaching which was going on, must cease and said that all cases would be dealt with in the very strongest manner and severe punishment given.

In the afternoon, Mr. Sharpe took His Excellency out to the Crater near Marsabit, where His Excellency was fortunate enough to bag a greater kudu.

On 12th June, we went to another Crater called Gof Bungale, where we saw buffalo, elephant, rhino and greater kudu.

His Excellency and party returned to Archer's Post on 13th June and I remained in Marsabit. Between 14th June and 4th July, I spent in short safaris around Marsabit, and visited among other places Gof Bungale, Songor, Ngombo, Crater Lake, and the surrounding country.

Elephant.—These were observed all over the mountain, large herds of sometimes over a hundred and several small herds of ten to twenty.

I saw no bull with ivory over 40 lbs. in my estimation, nearly all the cows had one or two tusks and from what one could see, all were in very good condition.

Most of these herds had come up from the low country, such as Goddas and the water holes on the plains, but undoubtedly a large proportion of the elephants, remain on Marsabit all the year round.

I visited several shambas where elephant were alleged to be doing damage but found the usual thing had happened; one or two elephant possibly had been in the edge of the shambas and the damage done was almost negligible.

Rhino.—Quite a number of these were seen, they did not seem to be as inquisitive as the ones on the plains.

Buffalo.—A large herd observed in the Crater of Bungale and several herds in the forests around Marsabit. All in good condition and no signs of rinderpest among them.

Greater Kudu.—Several of these animals have been shot around Marsabit in the last twelve months.

I saw tracks mostly in the forest and on one occasion, saw a good bull in the open. I only actually observed one more, but I am told by the District Commissioner, that they are increasing and that there is no need to prohibit shooting them for some time.

This, however, remains to be seen, as should Marsabit become a fashionable place for obtaining a greater kudu with little trouble these animals might very easily suffer considerably.

I also saw during these trips lion, leopard, zebra, lesser kudu, gerenuk, oryx, bushbuck, klipspringer (these near the Crater west of Marsabit), duiker, dik-dik, wart hog.

The District Commissioner has seen waterbuck in the forest.

Poaching.—There is undoubtedly a considerable amount of poaching in the Marsabit District at the present moment, this is rapidly decreasing, thanks to the efforts of the District Commissioner, who I am sure will, with the rigorous policy which he is pursuing, in a very short time teach the people in his district that poaching is not worth while.

The immigrant tribes from Abyssinia such as Gabbra, Herti, Boran, etc., are mainly responsible for the poaching that goes on. These people have been in the Marsabit area for some eight years. One of their tribal customs entails that the young men kill one of the bigger game, *viz*, elephant, giraffe, buffalo or rhino, in order to "win their spurs" and until they have accomplished this, their women will have nothing to do with them.

Should they find any of these animals dead and can go back with pieces of hide or any trophy, they gain the same amount of kudos as they would have done had they slain the animal.

All these resident Galla have friends across the border in Abyssinia and these friends also come along and poach in the Marsabit area. They have no animals left in their own territory to harass, consequently the elephant, rhino, buffalo, giraffe, especially the younger of the species, suffer in no small degree from the depredations of these people.

The Rendille, do not poach much game except giraffe, when during the rainy season they drive these animals into boggy country and kill them, to make sandals, buckets, etc., from the hide; they also eat the meat.

They have a form of phallic worship and very many of them carry a small elephant tusk weighing about 8 oz.

At the new moon, they go through certain rites such as putting the tusk in the smoke and rubbing their foreheads at the same time praying that they may breed children.

These small tusks are handed down from father to son and I do not think any elephant poaching is entailed by this custom. I arranged with the District Commissioner, Marsabit, to have these tokens registered in the district office

within three months and a permit will be issued to each genuine holder. After the expiration of three months, all Rendille found in possession of any tusk whatsoever, will be charged under section 14 (2) of the Game Ordinance.

The Rendille were in favour of the registration being done.

Wanderobo.—These people are a pest wherever they be and shoot anything and everything they can. Elephant, giraffe, rhino, buffalo are killed for meat and the trophies are traded with Samburu and Rendille for sheep, goats, camels, etc. Of these trophies—the ivory and rhino horn are subsequently brought into the Boma as “found.”

I was generally informed by natives that there is a quantity of buried ivory on Marsabit mountain. This probably is correct. The natives say this could be purchased by exchange of trade goods, m'buni, cloth, etc., but it is difficult to gain the confidence of the native in the first instance.

I am in favour of this being tried as the results of similar efforts in the Kitui District proved highly beneficial to Government.

The Game Laws have been strictly enforced recently at Marsabit and where breaches have been proved, fines as well as imprisonment have been awarded.

Imprisonment without a fine is useless and it is openly stated by the Galla, that they do not object to prison, their contention being that they are well fed and housed during their period of imprisonment and that they come out possibly fitter than they were when they went in. By imposing a fine, the whole village suffers as they always contribute to a fine levied by Government.

The present policy is already having a beneficial effect and will, I am sure, in the near future, greatly deter the young men from illicit game killing.

Game Scouts.—There are two game scouts at Marsabit and one agent paid on the reward system. They are doing quite good work and will with care I imagine be useful in assisting to preserve game in that district.

Lysamis.—I camped here on the night of 5th July; an askari reported that he had seen spoor of a lion with 6 toes. He said he had called the other boys to witness this but they had not troubled to verify his statement.

I went along with him to see if this was so, but unfortunately being near a water hole, the goats and cattle watering had obliterated all signs.

Tomali.—A water hole near Kamatuni. I had to wait here three days for the District Commissioner, Marsabit.

During the time I was there, I saw Grevy zebra, gerenuk, ostrich, oryx, grant, impalla, lesser kudu, guinea fowl (vulturine), spur fowl, an occasional sand grouse, lesser bustard and greater bustard.

Laisadon.—Rough road, much loose stone. I observed giraffe, gerenuk, grant, zebra, also many guinea fowl, etc.

Illaut.—Near here we entered the Game Reserve, probably about 3½ hours from Laisadon—very bad going, loose volcanic lava. Quite a lot of game—lion, gerenuk, grant, oryx, Grevy zebra and giraffe, also much fresh rhino spoor.

From Illaut to the second stream, we marched through the Herr Valley; water about five hours from Illaut, at a rock known as Koronli.

We halted during the day and at 11 a.m., a lion unsuccessfully attacked a camel but got away in the bush. During these marches, we observed two large herds of buffalo, rhino, oryx, zebra, grant and we heard elephant before the first stream.

From the second stream on through rather barren country until Sirima, when we reached the lava out-crop, from there on very bad going indeed. Hot shifting boulders of lava; until the Lake shore is reached where it becomes a pebbly beach.

On the way to Loiyangalani, we went west of Mt. Pullo, a volcanic barren hill between the Lake and Mount Kulal.

Loiyangalani.—There was not much game about Loiyangalani, only oryx, grant and Grevy, giraffe, all of which seemed very wild, probably owing to the presence of Abyssinian who had been reported there just before our arrival. Old hippo tracks were seen but none of these animals were observed.

The El Molo came in to visit us, and brought the most excellent fish. I asked them to bring in more which they promised to do, as I wanted to dry out one and bring it to Nairobi for classification, however they did not do so and we were unable to wait any longer.

There is good fresh water in the old Boma at Loiyangalani, also hot spring.

Leaving Loiyangalani we went between Mts. Kulal and Pullo; on to Serima thence by a more easterly route outside the Horr Valley via Kurodol and Halleli to Illaut. We did not see very much game and most of it was very wild; this undoubtedly due to the Wanderobo, as we saw traps on this route.

From Illaut we went to Sangal, where there is a delightful running clear water, here we saw lesser kudu, giraffe, oryx, Grant, gerenuk, elephant, rhino.

Irrer.—This is just outside the Game Reserve. We saw very many elephant, mostly cows and toots, buffalo, oryx, zebra, giraffe, gerenuk and very many guinea fowl, spur fowl, sand grouse, partridges, etc.

Odermuru.—From Irrer, some 10 hours' march, is a famous watering place for all animals in that district. Though there is no pool, water can always be found by digging a few feet.

There was any amount of game here and during the 24 hours we were in this vicinity, we saw elephant, lion, buffalo, rhino, giraffe, oryx, Grevy zebra, lesser kudu, gerenuk, grant, and many wild fowl.

From Odermuru, we returned to our original starting place, Tomali, where we had left our cars.

Game Reserve.—There is no possible doubt but that the presence of Wanderobo in the Reserve is a very serious menace to the game.

All along the foot hills and plains near the Matthews Hills, there were very definite signs that the game had been worried. Apart from the presence of traps and snares, the game was very wild, in fact far more so than when we got into the south-eastern side of the Reserve around Irrer and outside of the Reserve.

It should not be a difficult matter to round up these Wanderobo and get them all put in one place or else turned out of the Reserve altogether, as if they are made to understand that they must come under the direct eye of the District Commissioner, they will soon learn that poaching is not as lucrative as it has been.

The game in the Reserve all looked in very good condition, there had been good rains towards the west side of the Matthews Range and the grazing was fair.

Lion were scarcer than one would imagine and were very seldom herd at night.

Elephant plentiful, but mostly cows and totos observed, there being a very large proportion of the latter.

I do not imagine much damage is done to the game in the Reserve by Abyssinians.

There are apparently no elephant left on Kulal. I was unable to go on to the mountain myself owing to being pressed for time, but from enquiries I gathered, all the elephant had gone.

In conclusion I must stress the fact that much good must result if the Wanderobo are brought into close touch with administration and the law.

11. ZOOLOGICAL EVENTS OF INTEREST.

The outstanding happening during the year, was the discovery in a lake deposit on a hill-side near Lake Naivasha of a well preserved skeleton of the Indian buffalo (*Bubalus bubalis*) carrying very massive horns with a spread of 8ft. 6 in.

An eminent archæologist suggested an explanation of its presence involving the People of Punt, who lived on the Straits of Bab-el-Mandel, and introduced humped cattle into Africa approximately 2500 B.C.

The geologist, Dr. Neilsen, who discovered the remains, believed that the deposit in which the skeleton was embedded is of very much greater antiquity. Dr. Neilsen very kindly promised to acquaint me with his conclusions, so soon as he had worked them out; such we must await, since speculation, however interesting, cannot be of any great value unless based on more data than is at present available.

Mr. Leakey has discovered many mammal remains in various deposits in the vicinity of Lake Elmenteita.

I understand that, while certain of his finds are expected to prove of considerable zoological interest, they have not yet been subjected to detailed examination and report.

In May, for a fleeting fortnight, the Nandi bear agnostics had it all their own way and the negotiationists stoutly repudiated their former incredulity. A strange massive skull, with the appropriate label, appearing in a Nairobi shop window, proved beyond doubt the existence of the erstwhile debateable beast; proved it, that is, until it became known that the skull was that of a dugong. This skull was picked up by myself on Lamu beach, and having a portion of the beak shaped premaxillæ broken off, has a curiously carnivorous appearance, accentuated by the great zygomatic width.

Additional evidence was forthcoming during the year to confirm my belief that the "Nandi bear" is 90 per cent. spotted hyaena. I am still not convinced that there may not be a contributory mystery; though whether this will prove to be material, or mythological, at any rate in respect of present day existence, who can say? I incline to the latter view: I merely incline, for it is always tiresome to be positive of any matter and to be subsequently proved wrong. On the subject of the Nandi bear, in my report for last year, I mentioned the occurrence in lion of 6 digits. It is interesting to note that a similar spoor is mentioned as having been seen, in chapter 11 c. supra.

I am told that figures of lion litters, among lions in captivity, have appeared recently, which tend to show that, under such conditions, the normal number at a birth is two.

Mr. Blayney Percival in his excellent and exhaustive account of lions in Kenya, says "the usual number of cubs appears to be 3 or 4, but all seldom survive."

Mr. Hunter while in the Game Reserve found that, of 7 lionesses, 5 carried 3 unborn cubs and 2 carried 4.

My own experience, relating to 3 lionesses only, gave 4 in each instance.

Major Stevenson-Hamilton, from wide observation in Southern Africa, gives 3 as the usual litter and believes 4 to be, there, the exception.

It appears probable, thus, that the average may vary in accordance with certain specified factors, though what the latter may be, I cannot at present suggest; the matter is of sufficient interest to stimulate further investigation, and such I shall pursue.

An interesting photograph was given to me, during the year, of an elephant which had been recently killed. I regret very much that I did not make an expedition forthwith to search for the skeleton, since it is unlikely that the measurements of the animal given to me will find acceptance unsupported by practical evidence. It was stated that the height of the animal at the shoulder was 13 ft. 6 in. The photograph undoubtedly shows an extraordinary, and apparently abnormal length of the femur and the humerus; should we ever be able to recover these bones, they will go far to establish, or refute, the measurement claimed.

The late Mr. A. H. Neumann disbelieved in the existence of a 12 ft. elephant. He, himself, had never measured one exceeding 11 ft. 4in. Rowland Ward records one of 11 ft. 8 in. from Abyssinia.

It would be an astounding thing indeed if there could be proved to have existed an animal of 13 ft. 6 in.

The red deer on Kipipiri continued to thrive until attacked by a curious malady. The veterinary authorities stated that the disease, which proved fatal to four of the animals, appeared to be similar to sheep-pox, but that sheep proved non-susceptible to it.

It seems possible that the deer contracted the disease from an immature kongoni, which had sickened and died, in an adjacent paddock, before anything amiss among the deer was observed. I hear that the remainder of the herd are doing well.

Mr. Rattray had bad luck with his Grevy zebras. Lions got into his boma on two occasions, killing and mauling a number of his most promising animals. In addition, owing to the drought, he was unable to replace the loss by catching operations since no herds fed in the vicinity of his boma.

An experience befell Major Geoffrey Buxton in the Masai Reserve, which is of sufficient interest to be placed on record. I quote from his letter to me, verbatim.

“ I write to tell you a very odd story which is difficult to believe, but none the less true and unexaggerated, with four (white) witnesses.

Two years ago I was crossing the Mara Plains and saw two female tommies hunting two jackals, and noticed a very young tommie nearby. When the females left

hunting the jackals they returned to the young tommie and immediately the jackals resumed their hunt as it obviously was, of the young tommie.

I saw exactly the same thing at the same place last year except there were two female tommies and one jackal only.

Last week at the same place, I was motoring down to the Mara bridge and saw two female tommies standing by a jackal who was mauling something: it struck me that it was the same thing over again but that the jackal had got the young tommie, and I turned the car to see, and it was so. I went up to about 100 yards away and the jackal went off. I stopped the car (so that the person who was with me could shoot) and said the jackal would come back, which he did. She shot and knocked him over; however, he got up and made off slowly. I followed slowly in the car thinking he would stop and she could shoot again, and continued to follow him slowly. The two female tommies instead of running away, or as one might have expected going for the jackal, went straight past him, turned and tried to head him back to the car, he dodged them, and they did the same thing again, most definitely and obviously three times. Then as the jackal gathered speed and looked like getting into some rocky ground, I put my foot on the pedal and barged ahead, result being the jackal was galloping for dear life within five yards of my bonnet on the left and the two tommies galloping level within five yards or so on the right of my bonnet, this continued for at least a quarter of a mile, probably more. Then seeing the jackal must escape me into rocky ground I told my passenger to try a galloping shot and she did and luckily bowled him over dead. I stopped the car and the other car came up, my gun-bearer got out and picked up the jackal and we saw, somewhat naturally, that two soft-nosed 350 bullets had spoiled his skin. The two tommies stood by for all the world like two greyhounds at the end of a course and then quietly trotted off towards the dead young one. We passed them in the cars going back to the road quite close and they took no notice of us whatever—not the least scared.

It really was the most amazing show. They must have realised at once the car was a friend and also the obvious way to help, *i.e.*, to herd the jackal back to us. The whole thing must have taken at least 7 to 10 minutes, and during all that time the tommies showed no fear

of us at all and might in fact have been trained dogs, but to see two tommies galloping with you and within a few yards on one side and obviously joining in the hunt was almost incredible.

Afterwards we repeatedly saw jackals after young tommies and even hunting does heavy. It seems to be a habit there, and may be everywhere; I never saw it anywhere else, but have three times there, three years running."

12. EAST AFRICA AND UGANDA NATURAL HISTORY SOCIETY.

Dr. van Someren added a number of cases of game birds to those already displayed in the Museum. Needless to say, they show the same combination of artistry and exactitude which invariably characterises all his work. He also mounted, and placed on exhibit, a fine old forest hog.

Mr. Pat Ayre presented to the Society a very good bush-buck head from North Kenya.

Apart from these additions, the Society was somewhat quiescent, in so far as its display collection is concerned, in view of its prospective move to a new domicile.

13. GAME BIRDS.

The year under review was again most disappointing to the shotgun enthusiast. The quail and snipe migration was poor; indeed, in many parts, where there is normally an influx lasting a few days or even weeks, these birds were not seen at all.

Lake Naivasha was much lower than I have ever known it. There were a fair showing of home-bred birds, but very few migrants.

The dessication of many of the lagoons forced the birds out on to the Lake itself, and there was accordingly little fighting to and from the Lake. At the reopening of the shooting in the last week of December, these adverse conditions were still more marked.

If the level of Lake Naivasha continues to fall, we shall soon have to write it off altogether as a decent shoot; a most depressing outlook.

The difficulty of obtaining any good gun-shooting in the accessible parts of the Colony, except in a few isolated places on private land, constitutes by far our greatest sporting disability.

Isiolo, and much of the Northern Frontier Province, swarms with game birds; guinea fowl, francolin, sand grouse, and lesser bustard abound in much of the dry bush country. Indeed, between the Kinna and Garba Tula, and near the Dawa River, you may see francolin and guinea fowl respectively in such numbers as would completely eclipse the best partridge country on the Norfolk-Suffolk borders; while at a water-hole in Tanaland I saw more sand grouse than I could imagine existed in the whole world.

These places are far afield, and few of us can get to them; though one must imagine that a few years—probably a very few—will bring aeronautical week-ends, and an increased demand for cartridges, shot-gun, 12 bore.

14. FISH.

Mr. Michael Graham's report on the fish in Lake Victoria has already been submitted, and it would be out of place for me to comment on it, beyond saying that I consider we should congratulate ourselves on having such a thorough and lucid exposition of the conditions and potentialities of the Lake, and should hasten to act on the several recommendations.

I have already stated that the trout hatch was most satisfactory. The sales of fry considerably exceeded our estimate.

Very few suitable streams remain unstocked, indeed the excellent East Kenya waters are, I think, the only ones, and with these we hope to deal in the near future.

Some interesting papers on trout will be found in appendices to this report. I should like to take this opportunity of expressing my indebtedness to Mrs. E. H. Ward, of Naivasha, for the considerable trouble she has taken over the compilation of Appendix II. It was no mean task, as I can testify, having commenced to work on it myself, before she so kindly offered to take it over.

15. THE 2nd AFRICAN GAME CONFERENCE.

The proceedings of the Second African Game Conference, held at Mombasa from 11th to 15th January, 1927, have long since passed through your hands and it would be idle for me to refer to them.

Suffice it to say that each one of us who attended has repeatedly recognised the benefit we have derived from it, in a clearer understanding of the many and difficult problems which in these days beset game preservation, and in a closer co-operation one territory with another.

The tendency to sit down and lament, each his own parochial trials and difficulties, and to lose sight of the larger issues and the wider view, can be prevented by two means only from obtaining a pernicious and even paralysing hold on those of us who are responsible for the game of to-day and the game of the future. First-hand knowledge is obviously the best prescription to combat introspection and the circumscribed outlook, but unhappily neither time nor money can suffice for its acquisition. There remains then the personal interchange of ideas and experience to which we can turn for help. It is for this reason that I regard with the greatest regret the non-acceptance of the strong recommendation made by the conference that there should be summoned at a not too distant date a more representative conference, to include delegates from all the territories in Africa which still retain an important indigenous fauna.

16. CONCLUSION.

It will have been seen that there were no cataclysmic occurrences to record. I consider, however, that game preservation can claim a certain progress during the year if only in a fuller recognition of our problems and a firm determination to tackle them.

I would here wish to make acknowledgement to all who helped us in their various ways. The number of those who earned out gratitude and that of all game lovers is so great as to preclude the possibility of individual mention. I must nevertheless, from among members of the Administration, cite two, in view of the very special assistance which they rendered. Mr. Sharpe at Marsabit, and Major Dawson at Narok, have done great service in reducing poaching in their districts.

I must also refer once more to the excellent work done by many of our Honorary Game Wardens who, often at considerable personal inconvenience, have not grudged time or trouble to help the Department when such help was needed. To them one must be profoundly grateful.

The old fallacy that the game belongs to the Game Department, is dead. The co-operation which we now receive from all classes in Kenya is proof of a general recognition that the game is the property of the community, and a valuable asset to the Colony; moreover, it justifies my optimism and confirms my belief that there is here room for beasts and men.

A. T. A. RITCHIE,

*Game Warden,
Colony and Protectorate of Kenya.*

APPENDIX I.—PART I.

Report on Cichlids in Lake Naivasha by Mr. R. E. Dent.

At the time of my visit to Lake Naivasha the level of the Lake was very low. Roughly the water level was about 5 feet below the line of permanent vegetation. Owing to the shallowness of the Lake, this vertical drop of 5 feet has left a large margin of mud varying in width of from 30 yards to 500 yards in places along the north-north-eastern and north-western shores. The southern portion of the Lake is of a slightly different character, in that there is no long shore before reaching water of 8 feet to 10 feet deep as there is along the northern portion. The result of the drop in the Lake level is not so apparent along the southern shores. Outside the mud bank there is a belt of weed which is usually some three feet under water. This weed bank makes the use of a boat very difficult. The southern shore is comparatively free of this weed barrier.

On arriving at Naivasha I saw it would be useless to try to investigate the Cichlids that were liberated opposite the Township, so accordingly I camped on the mainland near Crescent Island. I had heard that those Cichlids liberated off Mr. Wills' mainland and also off his island had not been seen for a long while. In some letters I have had from my friend, Mr. Wills, he seemed to think the fish had gone elsewhere, so that by choosing a camp on the mainland opposite Crescent Island, which I will call Camp No. 1, I was able to select a convenient base for this part of the investigation.

For the first ten days I was lucky enough to have Mr. Barton Worthington, of the Lake Victoria Fish Survey, who was on short sick leave, staying with me. We soon got to work mounting nets and preparing necessary gear. The result of our investigations showed that the Cichlids were plentiful along the shore of the mainland up to a depth of $1\frac{1}{2}$ fathoms, but none were found beyond this depth. No Cichlids fry were seen swimming about either near the mainland or round Crescent Island; our nets also failed to produce any fish from the northern side of the Island, where they were originally turned into the Lake. A number of Cichlids were caught and examined from this Camp. Details of these are given in Part II of this paper.

From Camp No. 1, I made visits to Messrs. McRae's or Longonot, Ltd. I had found Cichlid fry in the shallow water in front of Mr. R. McRae's house nearly a year ago. The

distance from Camp No. 1 to where I found the Cichlid fry is some 6 miles along the Lake edge. I found a small but enthusiastic fisherman in Master David McRae, who showed me lots of fish; so we repaired to the Lake opposite the house, where I was shown a number of Cichlids up to 10 or 12 inches in length lying in the shade of water lily fronds. David informed me that he could not catch them with any bait, but that he had foul-hooked one in the cheek and landed it when his hook was baited with a leech. Mr. Andrew McRae had landed two fish of about 9 inches long on a Zulu trout fly. I set two 3-inch gill nets along the water lilies that evening, and lifted them the next morning. Sixteen fish were caught, their average size being 8 inches and the average weight about 14 ozs. Two fish of 11 inches were caught of about 13 ozs. in weight, also a white-rumped duck (*Thassalonia*), three red-necked grebes and two great crested grebes. As the nets used were floating gill nets, and both ducks and grebes are continually pushing their way through weeds, one species of which grows long string-like stems, these birds evidently do not see any difference between the net and the weeds. Some grebes were caught while swimming under water, others by entangling a foot while swimming over the net. Some twenty were drowned in this way; others were liberated unhurt. Details of the fish caught here are included in the appendix to this report.

My next camp was on Mr. Lloyd's farm, some 13 miles further south on the Lake. The shore along here is totally different to Camp No. 1 or to McRae's. The shore consists of lava gravel and sand of lava and obsidian lying on hard earth. The water is free from weed for from 20 to 60 yards from the shore, then comes a narrow bank of weeds, some 100 yards wide, before reaching the open water of the Lake. One very noticeable and interesting thing to observe along this part of the Lake are partly submerged trunks of comparatively recently growing trees. They number about 100 and are some 2 feet in diameter. At the present Lake level they show about 2 feet to 3 feet above the water and the roots are covered by from 3 feet to 4 feet 6 inches. They are, as far as I can see, identical with the yellow-barked Acacia growing along the shore. These trees usually grow at least 4 feet above the normal level of the Lake, and die if their roots are submerged for any length of time. This would lead one to think that the dead trunks now stand on land that used to be 4 feet above the water, which would make the level of the Lake at least 7 feet lower than it is today. The old Masai, who said

he had driven cattle from the mainland on to Crescent Island, was probably speaking the truth. Another interesting point regarding the Lake is that the water has in the past been very much higher, as indicated by the deposits of diatomite to be found over 200 feet above the present level!

I spent several days wandering along this shore looking for any signs of the Cichlids without success. Eventually, Mr. Lloyd informed me that his cook said he had seen fish in the Lake near some papyrus. I talked to the cook, a Kikuyu native, who showed me the place where he had seen them. I shot the nets across a small bay formed on one side by a tongue of papyrus and on the other by a shoal of hard earth. On lifting the nets, I found five Cichlids, all "spent" fish. These had evently very recently spawned. I was badly hampered in my search for fry owing to the strong north-east wind which blew directly on to this shore, causing ruffled water and leaving a large quantity of thick white foam when the wind went down. All along this shore, and beyond Mr. Lloyd's, the Cichlids are to be found in shoals of from fifty or more to six or eight individuals. Several more were caught and all were recently "spent" or taken with eggs or fry in the mouth, showing clearly that these fish come into the warm shallow water to breed. Owing to my not having a suitable boat, I could not investigate the deeper water. The only boat I had was a home-made canoe of sheet iron which, though a useful craft, will not stand any rough sea such as springs up on the Lake in a few minutes. This was a great pity. A seagoing craft will be essential for future work if it is intended to introduce other species of fish.

From this camp I investigated a little of the shore beyond Major Ramsay Hill's estate, but found that the weed trouble began again, which prevented observation from the shore. Major Milligan very kindly lent me his Canadian canoe, but there again I could not risk going far out. No Cichlids were found along the shore of the promontory, nor do I think they have worked round as far.

Dr. Dunn was kind enough to invite me to his farm, which is situated on the north-west shore near the mouth of the Gilgil River. Here it is chiefly mud and papyrus, with an enormous area of shallow water, full of weed. One day was spent in a handy boat rowing all around the edges of the bay. but no signs of the Cichlids could be found. The probable reason for this is not that the distance from the Naivasha Township is too great for them to have spread, but to the

unsuitable nature of the bottom. This bottom, and right round to Lord Delamere's, is covered with thick weed. In this low water condition of the Lake there is not a square yard of the clean bottom which is essential to the breeding of this Cichlid according to my present knowledge of its habits. One day was spent in Dr. Dunn's sailing boat, a perfect boat for the Lake. Thoroughly seaworthy, and not drawing too much water, it also has a drop keel. Though the weeds were thick, we went through them with no trouble, thanks to a favourable wind. The shore along Mr. Hopcraft's place was examined. In one place I am sure I saw a ripple caused by a fish. The gill nets were tried, but caught nothing. There are many very suitable places along several miles of this western shore favourable to the requirements of the Cichlids.

PART II.

Notes on the Cichlids introduced from the Athi River into Lake Naivasha.

Genus and Species not Determined.

It is well known that the Cichlids nurse their eggs and young. The female takes the fertilised eggs into her mouth, where they hatch in due course. The young are liberated to look after themselves when they are old enough.

Knowing this habit of nursing in the mouth, and from observation of these fish at the time when they are breeding, it appears to me that a bottom covered by thick weed is detrimental. These fish must have a clean patch of mud or sand on which to deposit and fertilise the eggs, which are then collected by the female into her mouth. If there are no open places, but only a weed-covered bottom, the eggs would fall down amongst the weed and be lost to the mother. For this reason the fish are more likely to be found to increase along the north-eastern and southern shores than along the northern and western; this is actually the case to-day. Along the shore from the Township to Mr. C. B. Lloyd's, these fish are breeding well and are in considerable numbers already.

I do not think these Cichlids will be much use as a sporting fish in the Lake. In the Athi River many have been taken on a worm or grasshopper. That they are an excellent table fish there is no doubt. They are easily caught in a gill net. I suggest that no fishing with nets be allowed for another year. The use of a 4-inch gill net could then be allowed to riparian owners, but it would be unwise to allow any professional fisherman to fish on a commercial scale for

some time. These fish breed at a very early age, probably as young as 6 months old, and when they are 6 to 7 inches in length. I have caught some fifty fish in gill nets, and seen hundreds in the water, but have seen none over 13 inches in length or weight over 14 ozs. As I have only worked with 3-inch gill nets, and along the shore, it is possible that there are larger fish which, when not breeding, go into deeper water. The details of fish examined give an idea of their maturity and food.

Fish Examined, 6-1-28.

Fifty yards of 3-inch gill nets set on the surface, depth 1 fathom, allowed to remain from 6 p.m. till 6 a.m. Total catch: 3 Cichlids.

No. 1.—Length 8". Sex, male. Gonad quiet.

Stomach contents: Many portions of weed green algae.
Many fly larvae of several species. A few small crustacea. Many diatoms. Some Nematode cysts in stomach.

No. 2.—Length, 9". Sex, female. Gonad starting to ripen.

Stomach contents: Empty.

From the mouth: 60 fry. (Doubtless some were lost in the net.)

No 3.—Length, 9". Sex, male. Gonad starting to ripen.

Stomach contents: Empty.

It is unnecessary to give the details of every fish examined, so a few of the more interesting ones will suffice to show the size, general condition and food. From 20 fish caught on the 7-1-28, 3 were 11 inches in length, 7 were 10 inches in length, 10 were 8 inches in length; 15 were females ripening and 5 were males ripening; 10 had empty stomachs and 10 contained weed, fly larvae and diatoms.

On the 21-1-28, one male of 11 inches was examined. The stomach contained 35 nematode worms and a number of cysts. Some flat circular discs attached to the outside of the stomach were observed, but not recognised. No signs of any parasites were found in the gills or flesh. The food in the stomach consisted of a few small crustaceans, some weed and diatoms.

On the 26-1-28 two fish were examined.

No. 1.—Length, 11". Sex, male. Gonad starting.

No. 2.—Length, 12½". Sex, female. Gonad starting.

Mouth contained 120 eggs about to hatch.

Stomach contents: A few diatoms and a little weed.
(Showing that the fish can feed while carrying eggs in the mouth; she may, of course, put the eggs out of her mouth on a clean place while she feeds.)

*Notes on stomach contents of Birds caught in the
gill nets set for Cichlids.*

Cormorant, *P. Carbo lugubris*.—Sex, male: 5 clawed frogs.

Eight great crested grebes, *C. Cristatus infuscatus*.—
Stomach contents: Clawed frog remains and feathers from its own body.

Twelve lesser grebes (red-necked), *P. ruficollis capensis*.
—Some very small frogs, quantities of dragon fly larvae.

All round the Lake, for as far out as there is any weed, one finds millions of *Haplochilus antinorii*, a small "white-bait," which are easily collected in a push net of stout curtain netting. At one place I collected about 2½ lb. weight in half an hour's work. These were dried until they ceased to stick together in a mass; they were then sprinkled with flour and fried. They were excellent, but one could not eat so many as one expected, nor did I want anything else for dinner. I also cooked them in the form of fish cakes. They were the best fish cakes I have ever eaten. This indigenous fish is a new food asset easily procured.

After a careful examination of the living contents of the water of Lake Naivasha, I find it contains quantities of diatoms, small crustaceans, insect larvae and small molluscs, as well as a small indigenous fish in vast quantities. Given such an ample food supply, I consider that at least one more species of fish should be introduced.

The question is what sort of fish would be the most suitable? I should recommend one of two.

There is another Cichlid, *Tilapia Nilotica*, in Lake Albert. This is a very large fish, of some 4 lbs. weight, and a phytoplankton feeder. It is excellent eating, but gives no sport on rod or line. This fish may be considered as a "food supply" fish entirely, and must be caught with a net.

The other fish is the American large mouth black bass. This fish is a good eating, sporting fish, whose food is other fish. The black bass grows up to 40 or 50 lbs., and is a very sporting fish when hooked.

I think these two species would not do well together in so small a lake as Naivasha. The black bass would take a heavy toll of any other fish in the Lake. Further, the black bass is known to be a very rapid breeder, and quickly stocks any water favourable to it.

Owing to Lake Naivasha being so small, it would be unlikely to take a very prominent part in supplying the fresh fish market of the Colony; at the same time it would produce several tons per annum of the *Tilapia Nilotica*, or "Giant Ngege," which is quite one of the best eating fish.

APPENDIX II.

Trout Lore compiled by Mrs. E. H. Ward from material supplied by Mr. R. E. Dent.

PART I.—GENERAL.

In considering fish, it is obvious that the most important of their "conditions of existence"—those environmental conditions which determine their life-cycle—is the medium in which they live, water.

Of the various attributes of water, it will be necessary here to touch on only one or two.

Firstly, water is, as nearly as possible, a perfect fluid: and accordingly, where topographical features allow, it is in constant motion under the law of gravity. This motion, with its various concomitants, is one of the most important factors which decide and limit aquatic biological existence. The rate of flow of water, and the materials it carries in suspension, depend on the slope, the course in which it flows, and the watershed which has contributed to it: all these features are of great importance in any review of the conditions of existence and will merit detailed consideration later.

The second, and equally important, property of water with which we need concern ourselves is its great power of holding substances in solution: without this power, organic existence, as we understand it, would be impossible, for a number of salts which are essential to such existence can only be utilised when in aqueous solution; and, further, respiration necessary to plant and animal alike would be impossible without frequent recourse to the air above. This ability to dissolve foreign substances may, however, have other results, for the solution may be of a poisonous nature and inimical to life.

A further and important aspect of water, as affecting the conditions of existence, lies in its thermal stability—its reluctance to receive, and equally to dispense, heat.

How this, and the various other conditions of existence, interact and combine to set the stage for the play of life in our streams, we must now consider.

PART II.—STREAMS AND THE TROUT FOOD THEY CONTAIN.

In the nature of things, the majority of streams in Kenya suitable for trout are fast-flowing, for it is only in the Highlands, where hillsides fall steeply, that a temperature sufficiently low to allow trout to thrive is found. Trout will not breed except in a stream where, for at least six consecutive weeks, the temperature of the water does not rise above 57°F. Streams which will maintain such a temperature in Kenya are only found at high altitudes, flowing for the most part over bare rocky bottoms: for the sediment which in flood-time renders a stream turbid can find here no rest—respite possibly in some roomy pool—until the placid lower reaches of the plains receive the troubled waters. Thus, in the upper reaches of one such river, may be found two widely different environments for that aquatic insect life which is the trout's chief source of food-supply. Different environments naturally produce different forms of life; in the pools, where the water is still and the bottom sandy, live the ostracods. These minute sweepers of the river-bed are crustaceae with a bivalve shell; carrying their shell on their backs, they perambulate the bottom of the river and devour all the decaying animal and vegetable matter that finds its way there. One also finds there the lamellibranchs, minute bivalve creatures which remind one of diminutive cockles, and many varieties of burrowing larvae.

In the swift flow of the stream, where it rushes over its bed of rocks, live those larval forms of insects whose habit it is at this stage of their life-cycle to cling to rocks. Of these, the may-fly nymphs and the stone-fly nymphs both lead a retired existence under stones, while the chironomus larvae make tunnels on the face of the rock, spun from silk and strengthened by the silt of the river; the caddis make their cases of shell or stick, and both chironomus and caddis rely on the current to assist the symmetrical shaping of cocoons or cases.

But the staple diet of the trout is undoubtedly the stone-fly and may-fly nymph, and in studying the subject of trout food, it is interesting to know something further of the structure, habits and peculiarities of these creatures.

The origin of these, as of all insects, has been proved to be terrestrial; competition and overcrowding on land have forced them to adapt themselves to water. It is in the immature stages that these adaptations are most clearly seen; all adult insects, even those that live in the water, still retain their terrestrial methods of breathing.

The water-beetle, for instance, has developed his legs for swimming, but he has to come to the surface to collect supplies of air, which he carries down with him under his wing-case.

But the may-fly and the stone-fly, in their immature stages, have learnt a more direct way of breathing under water, and have thus made themselves independent of the upper air. They have developed gills and it is the function of gills to make possible the exchange of gases between the blood within the gills and the water outside them.

The life history of the stone-flies and may-flies is not known in its entirety; there are many gaps still to be filled. Their habits are secretive, and it is difficult to construct a suitable aquarium in which to observe them, as fast-running water is essential to their development.

The stone-fly, a member of the order *Plecoptera*, containing insects primitive in form and dull in colour, can usually be found by the simple process of lifting up a stone in the river-bed and looking underneath it; it can be distinguished from the nymph of the may-fly, which will probably also be found under the same stone, by its two claws on each foot.

while the may-fly has one; and by the gills being on the thoracic segment, while those of the may-fly are attached to the abdomen.

The stone-fly begins its life as an egg, extruded from the tip of the abdomen of its parent, but where and under what conditions these eggs are deposited is not known. The insect is first observed as a larva, then as a nymph, in which stage it sometimes remains for as long as two years, and, finally, as the adult insect, usually winged, though a wingless form of the adult male stone-fly has been seen in Kenya.

The may-fly belongs to the order *Ephemeroidea*; members of some of the many groups which compose this order may be found in lakes, members of others in swift-flowing streams; the may-flies are catholic in their tastes and prolific in their breeding habits. But it is a curious fact that there is, in this country, no record of a "hatch-out" of may-fly having been seen on a stream, though they are encountered often enough on Lake Victoria.

The life story of the may-fly is essentially the same as that of the stone-fly; the chief difference lies in the development of the mature insect. The may-flies emerge out of their nymph-cases by splitting the back of this covering, then fly off, alight on a twig, and, a few hours later, once more emerge from a covering, and this time appear in a new and very lovely dress. They do not feed in their final phase, but turn their attention solely to mating and the laying of eggs; this done, the one object, reproduction, of their adult life is achieved, and within twenty-four hours of leaving the water their life is over.

Another form of aquatic life which is of value as trout food is the crab. Rainbow trout are particularly fond of crabs; I have found no less than six, each an inch long and half-an-inch wide, in the stomach of a pound-and-a-half rainbow, but I have only once found one very small crab in a brown trout's stomach. The rainbow, incidentally, is not fussy about his diet—striped mice, large fruit-beetles, convolvulus hawk-moths, butterflies, grasshoppers, locusts, worms, caterpillars, larvae, and bees; he disdains none of these, and in case this diet is not varied enough, adds olives, flower-seeds, and bits of sticks and stones! The crab provides food for the trout, but he also deprives them of it, for he feeds not only on decaying vegetation, but on any dead or living animal he can obtain; he will even take a fly, as I discovered when I was fishing with very fine tackle in shallow, fast water for trout fry. The crab has

many enemies besides the trout; in the water he is hunted and eaten by otters; on land, where the female of his species is to be found in the breeding season, she is pursued and devoured by mongooses and zorillas.

The trout, then, has many sources of supply, and should not, one would imagine, suffer from any food shortage. There is always food in the river; none the less, it may not always be easy for the trout to obtain it. In the two seasons of dry weather, when the streams are low, the current is often not strong enough to wash insects which live under rocks out into the stream, where alone they are accessible to the trout. Further, in a time of low water, the trout congregate in the pools, and the competition for food grows keen.

I have made experiments in order to determine the difference in the number of aquatic insects on the move in the dry season, and in the rains; the results were very interesting. In the Rongai, at the end of the last dry season, I put a small muslin net (18 inches by 9 inches) into the main current at a point where it passed between two rocks. It covered a quarter of the river's width, and remained in position for an hour each day. The daily catch did not unduly strain the net; it varied between one to six very small ephemerid nymphs, and from eight to fifteen extremely small chironomus larvae, useless as food to any trout except the smallest fry.

Then the rains came, and the river rose three inches in a night. It was dropping when I put the net in place in the morning, but the result of the spate was a bag of 150 large ephemerid nymphs, several thousand shed nymphs' skins, and any amount of smaller food.

PART III.—SUGGESTIONS FOR THE IMPROVEMENT OF MOUNTAIN STREAMS.

There are in Kenya hundreds of mountain streams in which trout can breed and thrive. Owners of such streams, however, have often many complaints to bring against them. The stream is only a gutter; there are no pools; there are very few trout, and those few small or in poor condition; such are some of the criticisms. They are valid enough, but the remedies for these evils lie with the riparian owners themselves. For there are few difficulties in the way of overcoming such disadvantages; the character of the stream may be entirely changed with very little trouble, and once the stream is made suitable for it, the trout food will breed in increasing quantities.

I have watched the transformation of one such stream; originally it was little more than a narrow, shallow, mile-long ditch with a rush of water in it; to-day it is a mile of good trout fishing. The change was effected in less than a month by the stream's owner, with the aid of six Kikuyus, two crow-bars, and a cross-cut saw. A series of weirs were made of rocks faced with either logs or stones. The height of these weirs averaged 2 feet, their width 10 feet, and their distance apart 80 to 100 feet. What is the result? Instead of a narrow, rushing stream, too shallow for trout, too swift for vegetation, there is now a slow running stream, 10 to 15 feet wide, 18 inches deep, but with pools in it as deep as 6 feet, its banks thick with vegetation, and in its pools fat, well-fed trout.

If the food supply of a stream seems to be insufficient, there is one very simple way of increasing it. Collect some bundles of maize stalks, sugar cane or reeds, weight each bundle with a stone in the middle of it, and bind it with string. Throw these bundles into the stream, either into the pools or under the bank, and see that they are completely submerged. They will quickly be found by the ephemerid larvae, whose food is decaying vegetation, and before long every bundle will swarm with life. Then, sooner or later, the bundles break up, fat larvae and nymphs are scattered into the pool, and provide a good meal for any trout which may be lying there.

If the trout streams of this country are open to criticism, so also is the art of trout fishing as practised here, for it is abused in more ways than one.

Most grossly it is abused by those people who, owning a trout stream, look to the trout to provide them, not with sport, but with cheap food only, and who accordingly arm their boys with rod, line, and worms and despatch them to the river. Then again there is the type of fisherman who wants to catch fish, but does not want to take trouble. He fishes anywhere, anyhow, and with anything—except a fly (unless perhaps a salmon fly). His casts would hold a walrus, his spoons and spinners are like fleets of submarines, and he is the bane of many a Kenya river, though it must be said of him that he is his own worst enemy, for the fish can still be caught by an experienced fisherman. But none the less, such fishermen teach the trout to be wary of anything at the end of a cast, for while the trout learns quickly he forgets slowly. He knows the characteristics of his own stretch of river; he knows whence

If he sees a large and unfamiliar object upon the bank, and if something he supposes to be food, but of a strange unnatural variety, appears at the end of a line drawn through the water to the accompaniment of a loud splash, fear will vanquish hunger and the trout will bolt to cover. A few days later the same thing happens and very soon the trout learns to associate strange and alarming objects on the bank with strange and alarming food in the water. If the water is so thick that the trout can see only the bait, or so turbulent that he feels he must make a rush for food or it will escape him, then only may he be unafraid and fall a victim.

Such methods of fishing, it is easy to see, will not improve a river, and of this fact the Gura fishing books provide convincing evidence. I was there last year, and they informed me, "No fish; no fish," "Not seen the sign of a trout," "Consider the river wants re-stocking." I was surprised, and worried, too, for the Gura is the best trout river in Kenya. I thought these statements needed investigating, so I went down at once to the river, which was full, and decided upon my choice of flies. These were, a large ephemerid nymph pattern on a No. 6 hook, a smaller and paler fly on a No. 8, and a Zulu with its back hackles trimmed off on a No. 12. Within a few thousand yards of the camp, I moved some sixteen fish, of which I killed five. Of these, four were killed on the small Zulu and one on the large fly; thus I was confirmed in my suspicions that the fault lay not with the river but with the fishermen. The trout were shy of large flies, having been educated by the spoons and probably salmon flies of unskilled fishermen, but with small flies and fine tackle there was no difficulty in catching them. It was not long after this that I met that good fisherman, Mr. Penny Robeson, and his experience confirmed my own; fishing up-stream with small flies and fine tackle he rarely fell short, in the Gura, of twenty fish a day.

It is impossible to lay down rules as to tackle and bait, and to insist that all streams shall be fished up-stream, but fishing associations can do much, and I hope that as time goes on, more and more local associations will be formed which will encourage in Kenya the true art of fly-fishing for trout.

PART IV.—CONCLUSION.

We have touched, in this paper, on various aspects of trout and trout fishing, fish and fishermen. But little has been said so far of the many unsolved problems and unanswered questions which arise in the course of such a consideration. Little, indeed, can be said, for little is known.

Will brown trout breed in the same conditions of temperature as rainbow trout? Why are some rivers full of trout, all in good condition, but seldom over half-a-pound in weight? Where do the may-flies deposit their eggs? Is there ever a "hatch-out" of may-fly on a Kenya stream? At present we cannot answer these questions. There is an opportunity here for all who are interested, not in fishing alone, but in natural history: it is by the patient and careful observation of the fisherman who is also a naturalist, that the problems will at last be solved, and the questions answered.

APPENDIX III.

Are our Rainbow Trout Streams Overstocked?

By Mr. R. E. Dent.

From most fishermen one hears that they are.

Before answering this question definitely it will be well to consider the evidence carefully.

The evidence given by the average fisherman is that the introduced stock fish grow to several pounds in weight in two years or so. At the end of two years there are to be seen a number of young trout up to six inches long. After a period of four or five years from the date of stocking, the river contains a large number of trout, the largest being about 2 lb. These two-pound trout are very scarce, and the average fish is about half-a-pound. The longer a river has been stocked the more numerous are the trout, but fish of a pound weight are rare.

To a casual observer this would point to a shortage of food; in other words, that the river is over-stocked.

Going deeper into this question, and making a careful examination of the different rivers stocked with rainbow, one finds the following facts:—

The stocking has been done in two ways—

- (a) By turning down fry resulting from the hatching of eyed ova directly imported from Europe.
- (b) By transfer of small fish from a stream already stocked.

In the case of (a), one finds that these fry grow at the rate of one inch per month for twelve months. After twelve months individual trout continue this rate of growth for an-

slowly. At twelve months of age both cock and hen rainbows have their gonads well developed. At eighteen months a number will spawn; within twenty months all will spawn.

In these rivers (a), a number of fry may be seen eighteen months after stocking, showing that some of the stock must have bred at an earlier age than eighteen months' old.

The fry resulting from the breeding of the stock fish grow at the rate of from half to three-fourths of an inch per month for the first eight months; the growth then slows down to from three-fourths of an inch to half an inch per month for the next six months. After this the majority grow very slowly, only a few individuals attaining a length of fifteen inches in twenty-four months.

The condition of these trout is excellent. They are bright in colour, and fat and well-shaped. Their stomachs are full of food, chiefly insect larvae and crabs; just at the end of the long dry spell, *i.e.*, about the end of September, some trout show signs of falling off in condition, and have partially filled stomachs. This is due partly to the fact that the water is low, and the trout are congregated in the deeper parts of the river, thereby creating a keener competition for the available food; and also to there being little food washed down the stream, in contrast to periods of high water and spates, when there is a large quantity of food being continually carried down.

In the case of streams that have been stocked by (b), one finds that the stock fish introduced grow to a weight of 3 and 4 lbs. in from two to three years, and that they spawn within a year of being introduced. The subsequent generations are small and the situation is exactly as in rivers stocked by (a).

It will be noted that the stock fish introduced by (a) and (b) methods grew rapidly at first. Further, that (b) were fish bred in this country, which would have remained undersized unless transferred. This looks as though an extra quantity of food available encouraged growth.

All the rainbows in Kenya streams are in good condition, and usually have their stomachs full of food. The rivers contain vast quantities of aquatic larvae of several species; so it appears that one cannot explain the tendency for these trout to decrease in size of grounds of food shortage.

A more probable cause of the falling off in the size of rainbow trout may be looked for in relation to their breeding habit. It appears to me very likely that these fish commence breeding before they are sufficiently mature, with the inevitable result that the greater part of the nourishment derived from their food is used in the building up of the gonads and repairing the body after spawning; bodily growth being thus retarded.

A contributory factor in the dwarfing of trout may possibly be the consistent killing of the larger fish, and the sparing of the lesser, with the result that the opposite of natural selection is set up, *i.e.*, the smaller fish only being left to breed; for rainbow trout streams are pretty heavily fished.

To answer the question which heads these notes, we need a number of experiments in feeding and breeding, for only so can we hope to elucidate the determining factors of the rate of growth of rainbow trout.

APPENDIX IV.

Notes on the Kinna and Tana Rivers with some observations on Transport, etc.

During 1927, I made a safari via Meru, the Garba Tula Road, the Kinna River to its junction with the Tana, the Tana itself, and Kipini to Lamu; these brief notes, which supplement the interesting paper on Tanaland by Captain E. N. Erskine, included as Appendix B in my report for 1926, record certain observations made in the course of my safari.

Leaving the Garba Tula road, one is immediately in a most attractive game country. It is, indeed, hot, and the thorns are not less long nor insistent than one anticipates, but the palm-clad river offsets such minor disadvantages.

During the dry weather, game from all the bush country round about tends to draw down to near the water. We found that a great number of elephants were concentrated on the river, from a point two days' camel march below the road until the Tana junction is reached. No large muskoxen were seen, but spoor showed that they were in the neighbourhood. Few elephants remained in the dense patches of riverine vegetation during the day; almost all, after watering during the night—between 11 and 3 appeared to be a favourite time—fed slowly out into the bara. The same was the case with rhino and buffalo also, the former going farther afield than even the majority of the elephants. Rhino were numerous anywhere.

Giraffe (*Reticulata*) were seen several times, as also oryx (*Beisa*) and waterbuck (*Ellipsiprymnus*). Grant, impalla and eland were not uncommon on the upper reaches of the river, but appeared scarcer near the Tana.

The game animals most frequently seen were lesser kudu and gerenuk, the latter being the commoner; both were in considerable numbers and were several times noticed in parties. On one occasion nine lesser kudu were observed feeding together, and several times, sixes and sevens.

Lion were twice met with in the course of an early morning march. Vulturine guinea fowl in large packs were seen at intervals; francolin were less common.

The Kinna country is fortunately inaccessible for motor transport. It is accordingly quite unspoiled; and although the hunting is not easy, since the bush is, for the most part, somewhat thick, it is one of the most pleasant safari grounds I have seen in Kenya for those to whom shooting from an easy chair does not appeal. There is no obvious reason why porters should not be used. I think, however, that camels are the better means of transport, for it is good camel country. In this connection it is a sound principle to pack all one's soft kit on the less trained camels, and the more precious and brittle loads—photographic materials and sundown essentials—on the most placid; a very obvious piece of advice, but one that may save your camel tyro much heartburning, if not distress.

The junction of the Kinna and the Tana is a most delightful spot; the broad river and the wealth of fine trees form a striking contrast to the brook, covered in by palms, to which the Kinna has become reduced before it joins its imposing sister.

From the junction to Sankuri the river is equally interesting and attractive. A large number of elephants were watering at night; and might be found during the noonday hours, drowsing in groups under the larger thorn trees in some shallow valley eight to ten miles out in the bara.

Waterbuck were numerous but very nervous at their drinking places, for crocodiles were to be seen on many a sandbank.

A school of hippo still survives at the rapids; they proved to be the only ones that we should see, in the Tana itself, until we were within a mile of Kipini.

The first Peter's monkey were noticed a day before reaching Sankuri. Thence they were seen, except for a few gaps where there is no dense forest along the river bank, right down to the mouth.

Mr. MacArthur has recently established the fact that these monkeys are found also on the Sabaki River, and in the dense forest strip between these two rivers. I have as yet no specimens from the Sabaki; it will be interesting to see if they show any divergent characteristics as compared with individuals from the Tana.

Below Sankuri, unless expeditions of any length into the bara are intended, camels may be dispensed with, and transport confined to canoes. It is a matter for great regret that canoes are so difficult to hire on the Tana; were there a plentiful supply, I can well believe that there are many Kenya residents as well as visitors who would, availing themselves of the quite passable road to Sankuri, enjoy a few days' river holiday. It would benefit Tanaland greatly for its attractions to become more widely known. At present, the Wapokomo and their river are in a world apart; the potentialities of both are cramped by isolation and, to a certain extent, by neglect, which is a great pity, for the folk are a cheerful and intelligent lot, and much might, I believe, be made of them and their land. They are harried by two animal pests. Buffalo, ever partial to growing crops, are found at intervals all along the river. By far their worst despoilers, however, are baboons, and these there are by the thousand; their numbers are matched by their insolence, which is colossal. One incident in particular occurs to me. I saw an old husbandman patiently working away weeding his shamba, while a big dog baboon, not ten paces from him, was contentedly feeding on the painstaking crop. Some poison was sent by this Department to the District Commissioner, Kipini, who was anxious to try its effects in dealing with the pests. I have no information as to the result.

I made, with the kind assistance of Captain Mahoney, District Commissioner, Sankuri—Bura (the former boma being in process of evacuation and the latter of construction), an excursion lasting a week into the hinterland to the south-east of Massabubu. The country was waterless, and it would have been most difficult for me, even with the assistance I

accompanied by Captain Mitchell, of the K.A.R., and his camel transport, and to him for all his help and kindness I am much indebted.

Leaving the river at Malka Nadeni, we cut out on to the Gangerabeli Plain. Here was a most interesting variety of game. We saw on one day, three elephant, a troop of six lion, giraffe, ostrich, several herds of Hunter's antelope, many oryx, topi, gerenuk, Haggard's oribi and dikdik, as well as fresh spoor of rhino. That plain, in the dry weather, is thus a very favoured spot; I also saw there a very good lesser kudu, and a pair of reddish duiker, which were new to me, but unfortunately—for me—gave no chance of closer acquaintance. But that plain, in the wet weather, beggars description. I know, for the breaking of the short rains caught us there. I was most interested to notice the similarity in behaviour of Hunter's antelope with the more familiar impala. I shall not enlarge upon this animal now, for I have had another opportunity of seeing it during the current year, and I propose to give you a summary of the results of observations made on both occasions in my report for 1928.

We reached the river again at Gabaha, where we had a most horrible experience. Camping under the trees at the Malka (the official Somali watering-place), I had just stepped out of a very welcome bath, when a perfect fury of bees descended on us without warning. There was, of course, complete pandemonium, for these bees are very poisonous and of an amazing malignity. I will not recall the details of how we lost many of our pets, and were within reasonable view of losing some of our human personnel also.

The cause of the onslaught was the kitchen fire, placed under a large fig tree in which were several bee boxes. Our experience taught us to choose halting and camping sites with care, and may serve as a warning to others to do likewise.

The occurrence of Haggard's oribi near Massabubu entails a slight correction in Captain Erskine's notes, where he says of them: "The point to be noted, that it is never found more than 30 to 40 miles from the sea." I saw them at a spot which must be some 80 miles from the nearest point of the coast line.

I have little else of interest to record. I saw two bush-buck near Gubatu, the only occasion on which this species was observed on the river. An enormous flock of pelicans were frequenting Lake Bilissa, near Garsen, at which place

also Peter's gazelle were found fairly numerous. The Tana is, on the whole, most disappointing ornithologically; the variety and abundance of bird life on other tropical waters give one to expect a much greater wealth of avifauna than is to be found there.

I cannot close these notes without expressing my sincerest thanks to Mr. Oldfield, District Commissioner, Kipini, for the great help he gave us at all stages of our safari from Sankuri to Kipini. I am the more grateful for such assistance in view of the fact that he lent me the *tishali*, a large metal boat, and thereby suffered himself considerable inconvenience.



GOLD COAST.

ANNUAL GENERAL REPORT

FOR THE PERIOD

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GOLD COAST.

ANNUAL GENERAL REPORT.

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PREFATORY NOTE.

THE GOLD COAST COLONY with Ashanti, the Northern Territories and the British mandated territory of Togoland is situated on the Gulf of Guinea between $3^{\circ} 7' W.$ long. and $1^{\circ} 14' E.$ long., and is bounded on the west by the French colony of the Ivory Coast, on the east by the French mandated territory of Togoland, on the north by the French Soudan and on the south by the sea.

The area of the Colony is 23,490 square miles, of Ashanti, 24,560, of the Northern Territories, 30,600 and of the British mandated territory of Togoland, 13,040.

The Colony is inhabited by a large number of native tribes, whose customs and forms of government are of a more or less similar character. Each tribe has its own head chief and every town or village of the tribe a chief or headman.

The head chiefs and chiefs form the council of the tribe, and assist in dealing with matters affecting its general welfare. The succession to the chiefs' stools is for the most part hereditary by the female side, the heir to the stool being the son of the occupant's eldest sister, or, failing male offspring by his sisters, his brothers according to seniority and back from them to the male offspring of his aunts on the father's side.

The principal sea coast tribes are the following:—Apollonia, Ahanta, Shama, Komenda, Elmina, Cape Coast, Fanti, Winneba, Assin Gomoa, Ga, Adangme, Awuna, Agbosome and Afao.

In the interior of the Colony the principal tribes are:—Aowin, upper and lower Wasaw, Sefwi, upper and lower Denkera, Tufel, Assen, Esikuma, Adjumako, Akim Abuakwa and Akim Kotoku, Akwapim, Eastern and Western Krobo, Akwamu, Krepi, Shai and Ningo.

A number of different languages and dialects are spoken, the principal being Twi, Fanti, Awuna and Ga; but the use of English is widespread.

For the purposes of administration the Colony is divided into three Provinces, each presided over by a Provincial Commissioner. These Provinces are further divided into districts presided over by District Commissioners. Most of these officers perform judicial duties as magistrates in addition to being in administrative charge of their districts. The districts are as follows:—

1. Western Province :—Districts—Axim, Ankobra, Tarkwa, Sekondi-Dixcove, Sefwi and Aowin.
2. Central Province :—Districts—Cape Coast, Saltpond, Winneba and Western Akim.
3. Eastern Province :—Districts—Accra, New Juaben, Akwapim, Volta River, Keta-Ada, Birim, (Akim-Abuakwa), Birim, (Kwahu) and Ho (Togoland).

It is said that as early as the reign of Edward I. (1272-1307) English navigators made voyages to the Gold Coast, and that a hundred years later French adventurers reached the coast, who, about 1364, built several lodges or forts, one being at Elmina, parts of which are supposed to have been subsequently incorporated in the present castle there. No definite evidence, however, exists to support these claims, although it is quite possible they are both correct; indeed, the natives until quite recently used to point out a hill near Takoradi as the site of a French fort built there many years ago. For our earliest knowledge of the Gold Coast we are indebted to the Portuguese navigators of the later years of the 14th and first part of the 15th centuries. They had been slowly extending their voyages down the West Coast of Africa, and it is recorded that in 1471 Juan de Santerem and Pedro d' Escobar traded for gold in the neighbourhood of Elmina and Chama. They made the first European settlement eleven years later, when an expedition under Diego d'Azumbuja built and garrisoned the fort San Jorge da Mina (Elmina), the materials for which he brought with him from Portugal. Several other settlements were founded, and the country was claimed for the King of Portugal by virtue of a Papal Bull granted in 1430, which gave to Portugal all the islands already discovered and all future discoveries in Guinea. This Bull was confirmed a few years after the foundation of Elmina by Pope Sextus IV. The Portuguese remained in undisputed possession for over fifty years until British merchant adventurers commenced trading on the coast, the earliest voyages of which records remain being those of Thomas Windham and Antoni Anes Pinteado, in 1553, John Lok, in 1554, and William Towrson, in 1555, 1556 and 1558. The British made no settlements at this time and their trade soon lapsed altogether until the early years of 17th century. The Dutch, however, who made their first appearance on the coast in 1595, rapidly became serious rivals of the Portuguese and practically terminated the latter's occupation by capturing Elmina in 1637, and Fort St. Anthony at Axim in 1642. After the activities of the Elizabethan sailors and merchant companies had come to an end, the English connexion with the

Gold Coast was by the efforts of a series of merchant companies, the first of which, called the "Company of Adventurers of London trading into Africa" was founded in 1618, but did not enjoy a successful career. Another company was formed in 1631, which established the first British fort on the coast at Kormantin, and lodges at several other places. This company was engaged in the slave trade, as were also the other European nations. Its charter was renewed in 1651, but in 1661 a new company was incorporated as the "Company of Royal Adventurers of England trading to Africa." Settlements were formed at Anomabu, Accra, and at Cabo Corso (Cape Coast), at which place the castle was built about this time by the English, although the Portuguese probably had a lodge there earlier. Three other European nations succeeded in acquiring territories on the Gold Coast, viz. :—The Swedes, the Brandenburgers, and the Danes. The first-mentioned built the fort of Christiansborg, near Accra about 1645, but were driven out by the Danes in 1657, and retired from the Coast. The Brandenburgers established "Fort Great Fredericksburg" at Prince's River in 1682, and "Fort Dorothea" at Akwida in 1682, but their enterprise does not seem to have been prosecuted with much vigour, and was finally abandoned in 1720, their possessions falling into the hands of the Dutch. The Danes, however, after first selling the fort at Christiansborg to the Portuguese, and re-buying it three years later, rapidly improved their position, building forts at several stations to the East of Accra, as far as Ada and Keta, and exercising a kind of Protectorate over Akwapim, and the Volta River district.

The third English Company was not successful. The Dutch traders spared no efforts to get rid of their rivals, and in consequence of their aggression an expedition was sent by Charles II. in 1664 under the command of Captain Holmes, which recaptured Cape Coast, taken the previous year by the Dutch, and all the other Dutch forts, with the exception of Elmina and possibly Axim. In the following year, however, the Dutch Commander de Ruyter recaptured all the lost Dutch forts, with the exception of Cape Coast; and the Treaty of Breda, 1667 left affairs in the Gold Coast in this condition. The fourth English Company was incorporated in the year 1672 under the name of the "Royal African Company of England." Under its influence English interests steadily advanced and forts were established at Dixcove, Sekondi, Komenda, Anomabu, Tantamkweri, Winneba and Accra. The abolition of the exclusive privileges which the Royal African Company enjoyed led to its decline and eventual dissolution in 1752. By the Acts of Parliament

23 George II., c. 31, and 25 George II., c. 40, a fifth trading Corporation called the "African Company of Merchants" was formed, the membership of which was open to all British traders on payment of a fee of 40s., compensation being paid for its charter and property to the Royal African Company. An annual subsidy was granted by Parliament to the newly-formed Company until 1821, when by the Act 1 and 2 George IV., c. 28, the Company was dissolved and its possessions vested in the Crown, and placed under the Government of the West African Settlements, the seat of government being at Sierra Leone.

In 1824 the Governor of Sierra Leone, Sir Charles Macarthy on visiting Cape Coast Castle found the neighbouring country of the Fantis in possession of the Ashantis. He formed the resolution of inciting the Fantis against their oppressors and led an army of them with a few disciplined soldiers against the Ashantis at Insamankow where, on the 24th January, 1824, he was killed, and his force totally routed. The war which ensued was ended by the victory of the English at Dodowa, near Accra, in 1826. Peace was formally concluded by a tripartite Treaty in 1831, between the English, the Fantis, and the Ashantis.

In the meantime, Her Majesty's Government had inclined to the policy of retiring from the Coast altogether, and after the peace they actually transferred the government of the forts to the local and London merchants interested, who secured as their Governor, Mr. George Maclean, a man of marked energy and capacity. This gentleman, with a force of no more than 100 men at his command, and with a Government subsidy of only £4,400. a year, contrived to extend and maintain the influence of his Government over the whole tract of country now known as the Gold Coast. In 1843, it having been suspected that the Merchant Government connived at the slave trade, the control of the forts was resumed by the Crown, and a Lieutenant-Governor was appointed. Mr. Maclean was continued in the direction of native affairs under the title of Judicial Assessor to the Native Chiefs, which post he held until his death in 1847.

Hitherto the forts of the various nations were intermixed with each other, and there was no defined limit as to where the influence of one or the other began or ended. The imposition of Customs duties was rendered difficult, if not impossible, by the existence of the free ports of a rival nation within a stone's throw, as it were, of the duty ports. On the 24th of January, 1850, by Letters Patent, the Settlements on the Gold Coast ceased to be dependencies of Sierra Leone, and in the same year, by the purchase

of the forts and protectorate of the Danes, the coast line from Christiansborg to Keta and the districts of Shai, Eastern and Western Krobo, Akwapim, Akwamu and Krepi were acquired by England. By a Commission dated the 19th February, 1866, the Gold Coast Settlements were reunited to the Colony of Sierra Leone under one Governor-in-Chief. In 1867, a convention was made with the Dutch by which the portion of the Coast lying to the west of the Sweet River, which flows into the sea between Cape Coast and Elmina, was allotted to Holland, England taking all the territory to the east of the river, and a customs union between the two nations was established. The Dutch, however, found many difficulties in the way of their occupation of the forts and possessions received from the English in exchange for those of their own lying to the East of the boundary line. The native tribes refused to recognise their authority, and the prospect before them was that of a long series of petty wars with no reasonable hope of profit to be gained in the future. The result was the convention made between England and Holland in 1871, by which the Dutch transferred all their forts and possessions on the Coast to the English and Great Britain obtained at last the sole sovereignty and control of the territory from Half-Asini to Aflao. The forts were transferred on the 6th of April, 1872. The present extent and limits of the colony are defined in the Order in Council of 1906.

At the conclusion of peace in 1874, measures were taken to place the government of the Gold Coast upon a footing of efficiency and security.

A new charter was issued, dated the 24th of July, 1874, separating the settlements of the Gold Coast and Lagos from the government of the West African Settlements, and erecting them into one colony under the style of the Gold Coast Colony under a Governor-in-Chief with an Administrator at Lagos. There was one Executive Council and one nominated Legislative Council for the two settlements and one Supreme Court. The charter of 1874 was superseded by Letters Patent dated the 23rd of January, 1883, and the 13th January, 1886 respectively. By the latter instrument Lagos was separated from the Gold Coast and formed into a distinct colony. Provision was made for an Executive and Legislative Council, the members of both being nominated by the Crown. Four unofficial members were appointed to the Legislative Council.

By Royal Instructions dated 20th September, 1916, under Letters Patent of the same date, all previous Instructions were

revoked and the Executive and Legislative Councils were reconstituted. The Executive Council was constituted by the Colonial Secretary, the Attorney-General, the Treasurer, the Director of Medical and Sanitary Services and the Secretary for Native Affairs with the Governor as President. The Legislative Council was constituted by the members of the Executive Council and, in addition, the Comptroller of Customs, the Director of Public Works, the General Manager of Railways, and the Commissioners of the Eastern, Central and Western Provinces, as ex-officio members, and such unofficial members as might be appointed by the Crown. By an Order in Council dated 8th April, 1925, Letters Patent and Royal Instructions dated 23rd May, 1925, the Legislative Council was reconstituted. It is now composed of the Governor, fifteen Official Members and fourteen Unofficial Members. The newly-constituted Legislative Council for the first time contains an elective element; provision having been made for the election of six Head Chiefs as Provincial Members of the Council, three Municipal Members to represent the towns of Accra, Cape Coast, and Sekondi, respectively, a Mercantile Member and a Mining Member.

The currency in use consists of British Bank and Treasury notes and coin, all of which are legal tender as well as West African Currency Notes (value £1 and 10s.) and Coin (value 2s., 1s., 6d., 3d., 1d., $\frac{1}{2}$ d. and $\frac{1}{10}$ d.). The English system of weights and measures is followed.

CHAPTER I.—GENERAL.

1. The remarkable prosperity of the Gold Coast continues and there was an appreciable increase in value in both Imports and Exports, the total value of external trade being £28,120,877 compared with £22,390,676 in 1926. The value of Exports was the highest on record in the history of the Gold Coast,* and it exceeded the value of Imports by £579,793.

2. The staple product of the country is cocoa. The value of this commodity exported in 1927 was £11,727,566, which figure represents no less than 81.72 per cent of the total value of the Exports. Compared with 1926 there was an increase in value of £2,546,331 but a decrease in quantity of 20,930 tons.

3. The political atmosphere in the Colony during this period, particularly as regards the relationship between the educated and the illiterate communities and between some of the Sub-Chiefs on the one hand and some of the Paramount Chiefs on the other, was rather strained. There was considerable opposition to the activities of the Provincial Councils of the Eastern and Central Provinces which were formally inaugurated in May, 1926 under the provisions of "The Gold Coast Colony (Legislative Council) Order in Council, 1925." Notwithstanding this opposition, however, these Provincial Councils continued to do valuable work, and the results of their first labours assumed a tangible form in the Native Administration Ordinance which was passed by the Legislative Council in April, 1927. In the Western Province the people were much slower to realise the usefulness and the significance of the Provincial Councils, and it was not until April of the current year that a Provincial Council was formed in that Province.

4. The Native Administration Ordinance was devised to arrest the decay which in a progressive country like the Gold Coast is sure to manifest itself in Native customs and institutions. Its introduction afforded an opportunity to those persons who were unfavourably disposed to certain Paramount Chiefs to engineer an agitation in their Divisions, and for some time many of the Paramount Chiefs found themselves in difficulties. At the end of the year, however, the situation was much improved. The Provincial Councils give the Paramount Chiefs and their Councillors an opportunity to unite for the purpose of preserving natural institutions and customs; to consult together on subjects affecting the common welfare of their people; and to examine and advise Government on any proposed legislation. From the first the Provincial Council of the Eastern Province has been the strongest and the most generally supported. That of the Central Province has now fully recovered from the attacks which at one time seriously interfered with its proper working.

* Gold Coast includes the Gold Coast Colony, Ashanti and the Northern Territories.

5. In Ashanti an Ordinance was enacted by the Governor in July, 1927, providing for the establishment, constitution and management of Stool Treasuries. Under this Ordinance the Governor is empowered to make regulations for the setting up by Head Chiefs of Stool Treasuries, and it is proposed to make a start in certain divisions, selected by the Chief Commissioner, which show a disposition to adopt a system of sound finance. The reconstitution of the Kumasi Division under Prempeh, the ex-King of Ashanti, who after thirty years of exile in the Seychelles was permitted to return to Ashanti as a private person in 1925, has proved in every way satisfactory.

6. In the Northern Territories no political events of outstanding importance occurred during the year.

7. The Government of the Gold Coast was administered by Brigadier-General Sir Frederick Gordon Guggisberg, K.C.M.G., D.S.O., from the 1st of April to the 23rd of April, 1927, when he sailed for England on the expiration of the term of his appointment. After his departure Sir James Crawford Maxwell, K.B.E., C.M.G., Colonial Secretary, administered the Government until the 5th of June, 1927, when he left the Colony to assume duty as Governor and Commander-in-Chief of Northern Rhodesia. Mr. John Maxwell, C.M.G., Chief Commissioner of Ashanti, administered the Government from the 6th of June, to the 18th of July, 1927. The Governor, Sir Alexander Ransford Slater, K.C.M.G., C.B.E., arrived in the Colony on the 19th of July, 1927, and administered the Government from that date until the end of the Financial Year.

GOLD COAST, 1927—28.

CHAPTER II.—FINANCE.

Note.—The financial year is from the 1st April to the 31st March.

The following table gives the Revenue and Expenditure for the past five years:—

			Revenue.		Expenditure.
			£		£
1923-24	..	..	3,742,834	..	4,105,938
1924-25	..	..	3,971,187	..	4,632,633
1925-26	..	..	5,871,556 (a)	..	4,255,126
1926-27	..	..	4,365,321	..	4,328,159
1927-28	..	..	4,121,523 (b)	..	3,618,831 (b)

(a) Inclusive of a reimbursement of £1,755,114 from Loan Funds in respect of the amounts advanced in 1923-24 and 1924-25 and charged as Expenditure in the accounts of those years.

(b) The figures of revenue and expenditure for 1923-24, 1924-25, 1925-26 and 1926-27 include gross totals of railway revenue and expenditure. Owing to the separation of railway accounts from the general accounts of the Colony, the figures for 1927-28 include the net railway profit on the working of that year only. Had the revenue and expenditure for 1927-28 been calculated on the same basis as in former years, which included gross railway figures, the revenue would have amounted to £5,217,639 and the expenditure to £4,714,947.

2. The year's working may be summarised as follows:—

Excess of Assets over Liabilities on 1st April, 1927	..	£2,026,634
Revenue	.. .. .	£4,121,523
Expenditure	.. .. .	<u>3,618,831</u>
Excess of Assets over Liabilities on 31st March, 1928	..	£2,529,326
Transferred to Reserve	.. .. .	<u>241,457</u>
Excess of Assets over Liabilities on 31st March, 1928	..	<u>£2,287,869</u>

3. Of the total revenue in 1927-28 the sum of £3,181,481 was derived from Customs Duties, £224,114 from other indirect taxation and £582,331 from non-taxation revenue.

4. In addition to the above balance of assets amounting to £2,287,869, the Reserve Fund and the Supplementary Reserve Fund aggregate £1,387,272, of which amount £1,245,652 has been transferred from surplus Revenue, the balance representing accrued interest. There is a further amount of £334,497 standing to the credit of the Railway Renewals Fund, which is in effect another Reserve Fund, although earmarked for a special

The gross reserves of the Colony are, therefore :—

Excess of Assets appearing in the Balance Sheet	£2,287,869
Reserve Funds	1,387,272
Railway Renewals Fund	334,497
	<u>£4,009,638</u>

5. On 31st March, 1927, the amount of the Public Debt was £11,791,000, and the amount of the Sinking Funds for its amortisation was £1,112,466.

6. Expenditure on Loan Works to 31st March, 1928, was as follows :—

Amount realised from the loans making up the Public Debt ..	£11,181,224	
Amount voted from Revenue ..	840,653	
Amount advanced from Revenue (recoverable from next Loan)	177,806	
		<u>£12,199,683</u>
Expended on Railways	£7,958,886	
Harbours	3,770,426	
Waterworks	470,371	
	<u>£12,199,683</u>	

CHAPTER III.—PRODUCTION.

Agriculture.

Cacao.

Although there was a decrease in export of 20,930 tons compared with the previous year, which was the highest annual export on record, the Gold Coast easily maintained its position as the premier cocoa growing country in the world, producing about one-half of the world's supply. Prices were satisfactory throughout the year.

The percentage of the total quantity exported, as contributed by each Province, is given below, the percentage in the previous year being given for comparison.

	1927-28.	1926-27.
Eastern Province of the Colony ..	35.9	47.23
Central Province of the Colony ..	16.9	16.96
Ashanti and Western Province of the Colony	47.2	35.81

Steps to improve the quality of local cocoa are under consideration.

Kola Nuts.

2. The crop was about normal, but there was a decrease in maritime export of 986,716 lbs. This decrease is ascribed to exports overland through the Northern Territories, of which no record is kept.

Oil Palm Products.

3. The improvement in this industry has not been maintained, exports having fallen by 1,776 tons compared with 1926. Although merchants are willing to buy at a fair price, the quantity of oil offering is small, greater attention being paid to products which are easily prepared for market. Increasing quantities of palm oil are reported to be used for domestic purposes in the place of the cheaper kinds of lard substitutes.

Copra.

4. There is a well-established coconut industry in the Keta District. There was, however, a slight falling off in the export of copra.

Rubber.

5. Owing to the low prices prevalent throughout the world, the export of this commodity fell from 1,418,250 lbs. in 1926 to 711,288 lbs in 1927.

Cotton.

6. The planting of cotton is still in the experimental stage. The yield was slightly higher than that of the previous year.

Food Crops.

7. In general food crops were plentiful and up to average.

Sisal.

8. The output of the Government factory near Accra was 135 tons of fibre in 93 running days as against 459 tons in 274 running days during the previous year. Unfavourable weather conditions accounted for this large decrease.

Veterinary.

9. Tamale in the Northern Territories is the headquarters of the Department, and all the work of the Department is carried out in that Protectorate. The establishment consists of a Principal Veterinary Officer, four Veterinary Officers, one Inspector of Livestock and five African Veterinary Assistants. In addition to this staff, 41 non-commissioned Officers and Constables seconded from the Northern Territories Constabulary carry out Cattle patrol duties.

10. There is a Veterinary School at Tamale for the instruction of Africans who, after a course of four years, may qualify as African Veterinary Assistants and be employed by Government.

11. The following are the functions of the Department :

- (a) To guard the indigenous stock and imported live stock caravans from contagious and infectious disease.
- (b) To suppress any outbreaks of disease when they occur.
- (c) To instruct the stockowners in practical Zootechny.
- (d) To improve the indigenous breeds of live stock.
- (e) Treatment of sick domestic animals.
- (f) Research work in connection with animal diseases and feeding of live stock.
- (g) Breeding experiments.
- (h) To collect the import tax on live stock.

12. The cattle trade is mostly in the hands of Gold Coast Africans, but a few French subjects and Syrians also take part in it. During the past year owing to cattle plague in French Territory there was a slight decrease in trade done.

13. The number of stock passing through the quarantine stations was :—

42,167	Cattle	..	..	Tax	4s.	per	head.
50,887	Sheep	..	..	..	6d.	..	..
10,561	Goats	..	..	..	6d.	..	..
639	Horses	..	..	..	5s.	..	..

and the revenue collected at these stations was £10,129 7s. 6d.

14. There has been a great increase in the supply of locally bred cattle. All the stock has to pass through one of the five quarantine stations for inspection. These stations are on the main caravan routes from French Territory. Cattle are quarantined for nine days and other stock for 24 hours.

15. Serious epidemics of cattle plague occurred. 6,678 head of cattle died and 1,226 recovered and were branded as immune. 7,333 cattle were inoculated by the Serum-alone method and 996 by the Sero-vaccine method. The question of inoculating all young cattle with a view to making them immune from plague is receiving attention. There was also a slight epidemic of trypanosomiasis in one of the Government stock farms which was promptly arrested.

16. The experiment of issuing half and quarter bred English bulls to the Chiefs has resulted in the improvement of their cattle, and the importation of pure bred stock from the United Kingdom continues.

Forestry.

17. Forest policy in the Gold Coast is directed primarily to the preservation of a sufficient area of forest covered land so distributed as to ensure the maintenance of the humid forest type of climate which is an essential factor in the growth of cocoa, kola and other crops on which the prosperity of the Colony largely depends.

18. For this reason and because the natural forests of the country are in native ownership the Forest Department is not directly concerned with exploitation of the forests which is carried on entirely by private enterprise.

19. The mahogany export trade during the year has been normal and undisturbed by serious fluctuations in prices on the Liverpool market. These conditions have made evident the difference in value between good and inferior quality logs. The former are always saleable at reasonably remunerative prices while the latter are not. The following table gives the quantity and value of mahogany exported during the past five years :—

			Cubic feet.	Value.
				£
1923	..	..	1,714,340	171,015
1924	..	..	2,128,404	296,835
1925	..	..	1,772,683	222,258
1926	..	..	1,591,703	174,076
1927	..	..	1,239,721	120,348

The following quotation from the Timber Trade Journal of January 7th, 1928, will be found of interest in connection with the above figures :—

“ The demand for the better class of logs is still very strong, and wood showing character is eagerly competed for at every sale, whereas the poorer grade logs are difficult to sell, even at low prices. Fortunately, shippers are becoming more particular as to the class of logs they are now shipping from West African ports, and there is a smaller

“percentage of low-grade wood being sent forward now than
“was the case a couple of years ago. This is making
“conditions more favourable regarding prices, and gives
“buyers a truer insight into the real value of mahogany ;
“whereas previously there was a totally wrong impression
“as to the trend of market prices, because large quantities
“of inferior grade logs were shipped here, which nobody
“would buy, eventually being disposed of at ruinous prices
“to the shipper.”

20. Complete and reliable figures are not available to show the quantities of native timbers used within the country, but there are clear indications that a wider use is being made of these. This is a satisfactory tendency since every plank of native timber used represents money kept at home instead of being spent abroad on the purchase of foreign timber. From a wider point of view it effects an economy in consumption of the diminishing world stock of soft woods.

21. Forest Reserves aggregating 393 square miles were constituted by Chiefs during the year bringing the total area of Forest Reserves to 700 square miles, while a further 646 square miles have been demarcated and await constitution.

CHAPTER IV.—TRADE AND ECONOMICS.

(THE TRADE FIGURES IN THIS CHAPTER ARE IN RESPECT OF THE CALENDAR YEAR 1927.)

Customs Revenue.

1. The gross receipts for the year, £3,070,954, are the highest on record and are £826,325 in excess of the gross revenue receipts for 1926.

2. Although the quantity of cocoa exported during the calendar year 1927 was 20,930 tons less than in 1926, the value was greater by £2,546,331. The increased purchasing power of the people accounts in a great measure for the considerable increases under every sub-head of the customs revenue.

3. There was an increase of £97,879 in revenue derived from goods subject to *ad valorem* duty, and an increase of £746,540 in revenue from goods which pay *specific* duties.

4. There was an increase of £595,306 in the revenue collected from importation of wines, spirits and malts. The total revenue collected on account of these was £1,622,461, which represented 53 per cent of the total net revenue receipts.

Imports.

5. The value of all imports for the year amounted to £13,770,542, being an increase of £3,484,666 on the previous year, but less by £1,381,603 than the value of the imports during the boom year of 1920.

6. The chief contributors to the increase of £1,562,008 in the value of articles subject to the *ad valorem* rate of duty were cotton piece goods, artificial silk goods, silk goods, iron and steel goods, apparel, cotton goods, perfumery, medicines and drugs and woollen goods.

7. The value of the 1927 imports of articles subject to specific duty, other than wines, spirits and malt liquors, was £560,857 in excess of the value of such imports for 1926. The chief increases were in meats—canned and bottled, fish—canned or preserved, cigarettes, cement, motor spirit, sugar and soap—common. The increase in meats—canned and bottled and fish of all kinds can be ascribed to the fact that, when he has the money, the labourer employed on the cocoa farms, at Takoradi Harbour, at the gold and diamond mines and on other development works in the Colony, prefers "European" food. The importation of motor spirit was not affected by the import duty being raised from 3d. to 6d. a gallon as from the 12th September, 1927, and the increased importation testifies to the great development in motor transport as a result of the constant addition to the mileage of motorable roads in the Gold Coast.

8. The value of the imports of spirituous liquors was greater by £335,895, the principal contributors to the increase being gin,

9. The value of the imports of commercial free articles was greater by £995,644. Increases appeared under motor cars and lorries, corrugated iron sheets, coin, beef and pork (pickled and salted), and spare parts for motor vehicles. Of the total importation of 2,914 motor lorries and cars the United States of America supplied 2,261, while the United Kingdom supplied only 290. The United Kingdom supplied 212 motor-cycles out of 223, and 4,863 bicycles out of 5,331 imported.

Exports.

10. The total value of the exports for the year ended 31st December, 1927, was £14,350,335, being £2,245,555 or 18.55 per cent greater in value than the exports for 1926. This total value is the highest on record. The following table gives particulars of the quantities, values and destinations of the principal articles exported in 1926 and 1927.

Articles.	Quantities.		Values.		Principal countries to which exported.
	1926.	1927.	1926.	1927.	
Cocoa (raw) .. tons.	230,840	209,910	£ 9,181,235	£ 11,727,566	U.S. America, United Kingdom, German and Holland.
Diamonds .. carats.	299,835	460,959	362,833	512,159	United Kingdom.
Fibre (sisal hemp) tons.	456	280	18,195	9,794	United Kingdom.
Gold (raw) .. ozs.	219,999	189,571	850,042	727,182	United Kingdom.
Rubber lbs.	1,418,250	711,288	53,473	30,738	United Kingdom and Germany.
Manganese ore .. tons.	344,933	369,205	684,852	682,962	Norway, France, U.S. America, Canada, United Kingdom and Belgium.
Copra tons.	1,513	1,454	33,482	30,674	Germany.
Kola Nuts .. lbs.	12,474,028	11,487,312	259,479	191,380	Nigeria.
Palm Kernels .. tons.	7,659	6,545	125,556	107,079	United Kingdom and Germany.
Palm Oil tons.	1,752	1,090	52,283	30,227	United Kingdom, U.S. America and Germany.
Mahogany .. cub. ft.	1,880,456	1,239,721	213,928	120,348	U.S. America and United Kingdom.

11. The value of the exports of domestic products and manufactures, excluding bullion, was in excess of that for the previous year by £2,459,618 or 22.36 per cent, but the value of gold produced during 1927 was less than the 1926 output by £122,860.

12. The value (£11,727,566) of the cocoa exported represented 81.72 per cent of the total value of the exports in 1927. The statement hereunder shows the destination of the cocoa exported.

	Quantity Tons.	Value £
United States of America	60,529	3,284,495
United Kingdom	48,288	2,847,234
Germany	44,040	2,440,655
Holland	38,953	2,227,821
France	7,287	408,785
Other countries	10,813	518,576
	209,910	11,727,566

13. The import trade with all parts of the Empire represented 63.56 per cent of the total import trade and is less by 3.44 per cent than similar trade for the year 1926. The share of the import trade appropriated by the United Kingdom was 57.9 per cent, being 2.05 per cent more than in the former year. Imports from British West Africa fell from 9.31 per cent to 3.3 per cent, a decrease of 6.01 per cent on similar imports in the previous year. The United States of America, France and Germany again increased their share of the import trade with the Colony. Holland's share of the import trade again shows a decrease. In 1926 it was 7.08 per cent and in 1927 it was 6.48.

Trade Channels.

14. The channels by which British manufactured goods reach the African consumer are:—

- (a) Direct from manufacturer to consumer, chiefly by parcel post.
- (b) From manufacturer through indent houses in Great Britain to the consumer by freight and parcel post.
- (c) From manufacturer through parent houses in Great Britain of trading firms having branches in West Africa, thence through the branches to the consumer. This is the channel of the largest trade and represents the bulk of steamer freights to the coast.

15. The method of sale adopted is by means of small stores, owned by the various firms, in the towns and villages. The firms have larger stores in the bigger centres and these and the smaller ones are usually in charge of African storekeepers under the supervision of Europeans. In addition there are various stores owned by Africans themselves, who buy their goods from the larger importers, or in some cases import direct. There are great opportunities of direct trade with the African trader, but due enquiries should be made as to his financial standing. Goods are often consigned through the banking houses.

16. Africans also import large quantities of goods for their own personal use through the medium of the parcel post. These

goods are usually ordered from catalogue descriptions and payment is made with order or the goods consigned through one of the banking houses. There are opportunities for developing this trade, but it is necessary that goods should be of the type and quality stated. Advertisements in the local papers will produce quantities of applications for catalogues.

MINES.

Gold.

ABBONTIAKON MINES, LIMITED.

17. This mine had to close down in December, 1927 owing to the breaking of a crank shaft with resultant loss to the mining community in the Tarkwa District.

TAQUAH AND ABOSSO MINES, LIMITED.

18. This Company was registered in 1927 as a reconstruction of Taquah and Abosso, Limited, and is working three mines on the banket reef namely Tarquah, Abosso and Adjah Bippo.

New machinery is in course of erection.

ARISTON GOLD MINES, LIMITED AT PRESTEA.

19. Production has not yet commenced but a thorough reconditioning underground is being carried out.

AKOKO MINE.

20. The Akoko Gold Mines, Limited went into liquidation and a new company "New Akoko, Limited" took over the assets and resumed work but closed down in July.

BIBIANI MINE.

21. Bibiani 1927, Limited, acquired from the New Bibiani, Limited, the Bibiani mine and timber concessions and is expected to have a good future now that the motor road from Dunkwa has reached the property.

ASHANTI GOLDFIELDS CORPORATION, LIMITED.

22. This Company is still the premier gold producing property of the Gold Coast, the value of the Gold produced being £436,385.

Manganese.

23. The African Manganese Company working the deposit at Nsuta is the only exporter, the value of the 369,205 tons exported being £682,962.

Diamonds.

24. The African Selection Trust and the West African Diamond Syndicate are still the main producers. 460,959 carats valued at £512,159 were exported during the year.

Labour.

25. No labour was indentured from other Colonies. All those employed at the Mines were engaged locally. The health of mine labourers was good throughout the year.

26. There was again a falling off in the export of raw gold which was counterbalanced by a large increase in the quantity of diamonds exported. The manganese ore industry maintained its importance.

CHAPTER V.—COMMUNICATIONS.

Shipping and Harbours.

1. There was a satisfactory increase in the number and tonnage of shipping which entered and cleared during 1927 as compared with 1926. 900 vessels, representing an aggregate net registered tonnage of 2,458,570, entered the ports of the Colony during the year, and 891 vessels of a total net registered tonnage of 2,437,830 cleared for overseas in the same trade period. In 1926 the vessels entered inwards totalled 867, representing a net registered tonnage of 2,407,509, and 865 vessels cleared outwards with a total net registered tonnage of 2,406,927.

2. The following statement shows the nationality of shipping which entered the ports of the Gold Coast during the year 1927 :—

Nationality.	Steam and motor vessels.		Sailing Vessels.	
	Nos.	Net registered tonnage	Nos.	Net registered tonnage
British	492	1,421,905	—	—
German	107	214,964	—	—
French	99	298,658	—	—
Dutch	97	238,357	—	—
American	42	138,855	1	1,107
Norwegian	31	89,589	—	—
Italian	17	36,161	—	—
Danish	12	14,151	—	—
Spanish	2	4,823	—	—
Total	899	2,457,463	1	1,107

Note.—The above figures are in respect of the calendar year 1927.

Takoradi Harbour.

3. Rapid progress was made with the works during the year with the result that the ceremonial opening of the harbour took place on the 3rd of April, 1928.

4. The two breakwaters were substantially completed by the end of September and the wharf by the end of February.

5. Approximately 8 miles of railway track were laid, principally in sidings and in the Harbour area, and 2 miles of tarmacadam road, 20 feet wide, have been constructed.

6. Six new 2-ton electric portal cranes have been installed on the Main Wharf, and three 3-ton electric portal cranes and two 4-ton steam gantry cranes have been transferred from Sekondi Harbour and erected on the Lighter and Timber Wharves.

7. In addition to the 3 sets of steamer moorings laid down during the previous financial year, 20 sets of moorings for tugs and lighters have been fixed in the harbour. One of the two harbour tugs, the "Sir Gordon," arrived at Takoradi in January, 1928, the second, the "Sir Ransford," arrived just after the end of the year under review on 20th April, 1928.

8. Navigation lights and a fog bell have been erected at the extreme ends of the breakwaters, and a lighted whistle buoy has been fixed approximately 2 miles south east of the end of the main breakwater, to serve as a turning-in point for vessels making the harbour during foggy weather.

Railways.

9. The Central Province Railway was completed and taken over by open lines during the year, and the total mileage open for railway traffic in the Gold Coast is now 493.

10. The main line runs in a northerly direction from the port of Sekondi to Kumasi in Ashanti, thence to Accra in a south-easterly direction, a total distance of 362 miles.

11. The branch lines (3' 6" gauge) operated from the Sekondi-Juaso Section are (i) the Inchaban branch which runs in an easterly direction taking off the main line at 4½ miles from Sekondi, and having a length of 4 miles; (ii) the Tarkwa—Prestea branch which runs in a north-westerly direction taking off the main line at Tarkwa, 39 miles from Sekondi, and having a length of 18 miles; and (iii) the Central Province branch which runs in a north easterly direction from Huni Valley, 53 miles from Sekondi, to Kade, a distance of 99 miles.

12. The only branch operated from the Accra Section is the Weshiang branch (2' 6" gauge) which runs from Accra in a westerly direction to Weshiang, a distance of 10 miles.

Finance.

13. The total capital expenditure on the 31st March, 1928, was £8,432,831.

14. The gross revenue amounted to £1,229,713, an increase of £73,260 as compared with the gross revenue for the year 1926-27.

15. The gross expenditure was £1,096,116. This amount includes a contribution of £95,866 to the Renewals Fund; a sum of £7,995 in respect of additional services rendered by other Departments, and a sum of £3,588 in respect of preliminary expenses in connexion with Takoradi Harbour.

16. The transactions of the year resulted in a net profit on account of the railway of £133,597 which was paid to the credit of the general revenue of the Colony.

Traffic.

17. The number of passengers conveyed during the year was 1,728,493, an increase of 275,578 over the previous year.

18. Two additional passenger trains were started between Kumasi and Obuasi on July 25th, 1927, and satisfactory results were obtained.

19. A Sentinel Cammell rail coach was put into service between Nsawam and Accra on March 10th, 1928. It is being well patronised, and it is hoped that the use of this type of coach will be further extended.

20. Kensere Station was opened on July 25th, 1927 and booked 9,482 passengers.

21. The total tonnage of goods traffic (exclusive of live stock) carried during the year 1927-28 was 750,153 a decrease of 55,074 tons compared with the 1926-27 figures.

The principal decreases were:—

Commodity.	Tons carried.	Decrease.
Coal, Coke and Patent Fuel ..	11,073	7,469
Cocoa	131,517	17,672
Manganese	337,526	56,553

The principal increases were:—

Commodity.	Tons carried.	Increase.
Firewood	116,419	8,989
Building materials	20,667	7,503
Imported food staples	15,445	2,736
Machinery	1,117	517
Mining materials	3,021	1,145
Timber	11,583	2,045

Central Province Branch.

22. The remaining portion of this branch from Oda to Kade, 18 miles, was opened on December 12th, 1927. The total number of passengers booked from Wenchi and Kade stations to the end of the year was 2,557 and 6,620 respectively. An improved Time Table came into force on March 19th, 1928, giving connections to and from all stations on this branch to the main line stations between Sekondi and Kumasi and to the Prestea Branch.

Locomotives and Rolling Stock.

23. Twelve locomotives received heavy repairs and 25 locomotives second class repairs. 475 Vehicles received general overhaul. 342,160 super. ft. of timber were cut in the Sawmill.

Working Costs.

24. The working figures of the Locomotive Branch for the year 1927-28 compared with 1926-27 are as follows:—

	1927-28.	1926-27.
Locomotive cost per engine mile ..	33.19d.	31.62d.
Running cost per engine hour ..	13s. 9d.	13s. 4d.
Running Cost per Engine Mile ..	21.97d.	21.42d.
Engine Miles per Engine Hour ..	7.47d.	7.47d.
Engine Miles per Enginemen's Hour	6.02d.	5.78d.
Carriage and Wagon Cost per 100 Vehicle Miles	122.89d.	127.82d.

New Electric Power Scheme.

25. In order to cope with the ever increasing demand for electric light and power in Sekondi and to fulfil the requirements of Takoradi Harbour and Township the construction of a larger power station at Sekondi with a sub-station at Takoradi Harbour was commenced in April, 1927. The work is being carried out departmentally and was about two-thirds completed at the end of the year. It is estimated that the whole scheme will cost £140,500.

Railway Surveys.

26. The preliminary survey of the Northern Territories western route was completed at the end of June, 1927, the distance surveyed being 155 miles. The projected location together with final reports and the estimated cost of construction for both the eastern and western routes were prepared, and full particulars are now available.

27. A preliminary survey was begun on December 20th, 1927, at three points, Tarkwa, Prestea, and Sefwi Bekwai. At the end of March 115 miles had been surveyed, 65 of which have been adopted. The chief reason for this survey is to determine whether it is possible to provide transport facilities for the exploitation of the extensive bauxite deposits near Sefwi Bekwai at a cost which would be economically acceptable both to Government and to any company which undertook the development of the deposits. Such a railway would, moreover, open up the at present scantily developed Western Province of the Colony.

Roads and Motor Transport.

28. The road system of the Gold Coast is constructed entirely with a view to its use by motor cars and lorries fitted with pneumatic tyres. Solid tyres are prohibited by law. The mileage of motor roads is 5,343 of which about one-third may be classified as good, and the remainder as fair. The principal stretches of the more important main roads are completed by a process known as "tarmetting," i.e., about four inches of metal bound with sand and gravel and tar-sprayed. The improvement of the surface owing to this method of construction is most marked and must result in reduced running costs, while in the towns the adoption of this form of construction greatly reduces the dust nuisance. All roads can be and are used continually by cars of the lightest makes as well as heavy vehicles.

29. With the exception of six places, where regular pontoon ferries are established, the roads are adequately bridged, and the necessity for driving through a drift is exceptional.

30. 1,100 cars and 4,250 lorries were licensed during the year, an average of one motor vehicle to each mile of road.

31. The increase in native-owned motor vehicles continues to be remarkable. It is possible to arrange transport for any kind of goods for long or short distances by these vehicles on all the roads of the Colony and Ashanti and on the Kumasi-Tamale road. The traffic in passengers is large.

32. 1,637 motor drivers' certificates of competency were granted during the year.

33. An excellent service of motor omnibuses is working in Accra under the Accra Town Council.

Posts and Telegraphs.

34. The number of Post Offices in the Colony, Ashanti, and the Northern Territories open at the end of the year was 214. Of these 151 were Postal Agencies. There were 120 Telegraph Offices open at the end of the year.

35. The number of cablegrams dealt with in conjunction with the Eastern Telegraph Company was 27,147 as compared with 22,418 in 1926-27.

36. A new Wireless Station is under construction at Takoradi and it will be equipped for communication with other West African Colonies and to link up with the nearest stations of the main Empire Service.

The new Station will be equipped for broadcasting.

37. The extensive telephone trunk line construction programme is nearing completion and practically every town of importance and a number of the larger villages are connected with the telephone system. The number of telephone Stations is now 54.

38. All the old telegraph lines in the Colony have been rebuilt and an extensive and reliable service is now in operation.

39. Owing to the extension of motorable roads the abolition of mail service by head loads is now practically complete and mails are distributed to all principal towns and villages by motor transport.

CHAPTER VI.

JUSTICE, POLICE AND PRISONS.

Justice.

The Law of the Colony is the Common Law, the doctrines of equity, and the statutes of general application in force in England on the 24th July, 1874, modified by a large number of local Ordinances passed since that date. The Criminal Law was codified in 1892, and the civil and criminal procedure are regulated by the Supreme Court and Criminal Procedure Ordinances both passed in 1876.

2. The jurisdiction of the Supreme Court is limited to the Colony. In Ashanti and the Northern Territories there is a Circuit Judge, who presides over the sittings of the Courts of the Chief Commissioners, with practically the same jurisdiction in civil and criminal cases as the Judges in the Colony.

3. The Full Court, which is the Court of Appeal, must consist of not less than two Judges.

4. The Supreme Court consists of Divisional Courts at Accra, Cape Coast and Sekondi. At Accra there are two Divisional Courts, the Chief Justice presiding over one and a Puisne Judge over the other. Criminal Assizes are held at the above mentioned towns quarterly.

5. The Gold Coast (Privy Council Appeals) Order-in-Council lays down the procedure and rules to be observed in appeals from the Full Court to the Judicial Committee of the Privy Council.

6. Police Magistrates and District Commissioners are *ex officio* Commissioners of the Supreme Court, the former with powers, in criminal cases, of imposing a sentence of imprisonment for one year or a fine of £100, and with jurisdiction in civil cases where the amount in dispute does not exceed £100. The latter's powers in criminal cases are limited to a sentence of six months imprisonment or a fine of £50 and in civil cases to cases where the amount does not exceed £50. Certain District Commissioners' Courts have, however, increased jurisdiction in civil cases up to £100.

7. Appeals from the decisions of the Police Magistrates and Commissioners lie to the Divisional Court. All cases tried by the lower Courts are revised by the Judge of the appropriate Province who has power to reverse any of their judgments.

8. The Chief Law Officer and head of the local Bar is the Attorney-General who is assisted by a Solicitor-General and three Crown Counsel. The Chief Justice has power to admit as Barristers and Solicitors of the Supreme Court any admitted Barrister or Advocate of Great Britain or Ireland and any person who may have been admitted as a Solicitor or Writer to the Signet in any of the Courts at London, Dublin or Edinburgh or as law

agents in Scotland. Every Barrister so admitted is entitled to practise as a Solicitor as well as a Barrister. Barristers and Solicitors are not allowed to practise before the Courts in Ashanti or the Northern Territories.

9. During the period under review 54 cases were disposed of by the Full Court and 506 civil actions were brought in the Divisional Courts. More than half of the actions were for debt and the total shows a considerable increase on that of previous years.

10. In the Superior Courts there were 103 convictions in criminal cases which is slightly below the average of the last three years. In the Courts of Summary Jurisdiction there were 16,769 convictions, an increase of over 4,500 on the previous year. This may be attributed largely to the increased number of prosecutions under the Public Health and Motor Traffic Ordinances.

11. Several volumes of Law Reports have been printed and copies are obtainable from the Crown Agents for the Colonies.

Police.

12. The Gold Coast Colony, Ashanti, and the British mandated sphere of Togoland are policed by the Gold Coast Police with headquarters at Accra.

13. The Northern Territories of the Gold Coast has a separate force in the Northern Territories Constabulary.

14. The Gold Coast Police is divided into three branches, viz. :—

Escort Police; General Police; Marine Police.

15. The Escort Police are mostly natives of the Northern Territories and many of them have served with the Gold Coast Regiment. They are chiefly employed on guards, escorts and patrols and are particularly useful when dealing with any unusual disturbance.

16. Thirty per cent. of the whole force are literate and they are chiefly employed in dealing with the keeping of criminal records, issuing various licences and all other police duties which cannot be carried out by illiterates.

17. The Marine Police are employed at the various ports and are required to carry out their work either on land or water.

18. The Criminal Investigation Department is now well established and over 16,000 criminal finger prints have been filed since 1923. During the past year 855 accused have been identified by this method as having been previously convicted.

19. There has been no specially marked increase in crime, but more minor offences in contravention of the Motor Traffic Laws have been brought before the courts owing to Police activity.

20. The Police Department keeps a register of Domestic Servants. This registration is now compulsory in the Colony

21. The Department also keeps a Register of all Europeans and Asiatics entering and leaving the Colony, and full particulars of all aliens and of their movements are recorded.

Prisons.

22. The Prisons of the Gold Coast are emerging gradually from a system of negative prevention to a system of training and reformation. Some years ago it was considered sufficient to catch the law breaker and, by keeping him secure under lock and key, to prevent his preying upon the community for a definite period. The object aimed at during recent years is to provide such training during imprisonment as will give the criminal both the means and the incentive to lead the life of a decent law abiding citizen on release.

23. The prisons are divided into two classes (a) the central or convict prisons and (b) the local or small outstation prisons.

24. The convict prisons are supervised by experienced European Officers and are equipped with workshops and staffed by trained instructors. To these prisons are sent all persons sentenced to terms of imprisonment exceeding six months. The following trades are taught:—tailoring, masonry, carpentry shoe-making, furniture-making, cloth and mat weaving, string and rope making.

25. The local Prisons are supervised by the Political Officer of the District in which they are situated and are used for the detention of persons sentenced to terms of imprisonment up to six months. The prisoners in the local prisons are employed on conservancy work.

26. The daily average population of the prisons for 1927-28 was 1,701. The health was good.

CHAPTER VII.—PUBLIC WORKS.

The most important public works in progress during the year were the construction of the Prince of Wales' School and College at Achimota which is well ahead of schedule time and should be completed by November, 1928. The lay-out of Takoradi Township has proceeded apace. Amongst other items 30 European bungalows, 94 quarters for African Officials, 325 quarters for artisans and the first of the two cocoa sheds and the bonded warehouse have been completed, and work on the Port, Medical, Police and Immigration Offices, the Public Works Department Yard, Police Barracks and Post and Telegraphs Yard is well in hand.

2. Forty-five bungalows for Officials have been built in other stations during the year.

3. New Police Barracks at Mampong (Akwapim), Kibi, Twifu, Oda and Bekwai were erected and those at Koforidua considerably extended.

4. An Infant Welfare Clinic is in course of construction at Kumasi.

5. Plans for new Law Courts to be erected at Accra have been prepared and have been approved.

6. The pipe borne water supplies at Accra, Winneba and Sekondi have been satisfactorily maintained and extensions to the systems have been carried out.

7. The construction of the Cape Coast waterworks is well in hand and should be completed and in operation during the next financial year.

8. Investigations are being carried out in connection with a Water Supply for Kumasi.

9. There are electric light and power supply plants now in the following towns, Accra, Sekondi, Kumasi and Koforidua and also at Aburi.

10. £102,775 was spent on road construction, and the cost of maintaining roads was £70 per mile as against £63 in 1926-7

11. The cost of buildings erected during the year was £594,017. The figure for the previous year was £384,878.

CHAPTER VIII.—PUBLIC HEALTH.

The climate, though hot and damp, is cooler than that of most tropical countries situated in the same latitude. It is not in itself unhealthy; but an evil reputation has been earned for it in the past by the prevalence of mosquito-borne diseases, against which all possible precautions have constantly to be taken.

2. The Gold Coast is peculiarly free from many of the discomforts associated with tropical countries. Hot nights and intense heat by day are the exception rather than the rule, while insects are comparatively unobtrusive.

3. The efforts of the Medical and Sanitary authorities in promoting the treatment of disease and the knowledge of general hygiene, continue to exercise a beneficial effect on the general health.

4. The rainfall varies with the configuration of the country and is highest in the mining Districts of Tarkwa, Upper and Lower Wasaw, etc., and also at Axim. The first rains, or rainy season proper, begin in March and end in July; the later rains are spread over the months of September and October. The rainy season is marked by a considerable fall in temperature, which is found to be refreshing to many Europeans, but proves trying to some. The Harmattan season begins in December and ends in February.

5. Registration of births and deaths is carried out only in twenty-six towns and generally speaking it is admittedly incomplete and inaccurate. At the census of 1921 the total population of the Gold Coast was approximately 2,112,000. No general death rate, birth rate, or infant mortality rate can be worked out, nor can an accurate estimation be made of the more important causes of death, its age incidence or its distribution.

6. From the areas where registration is carried out 5,574 births and 4,884 deaths were reported for the calendar year 1927. The number of deaths under one year old was 679. The population of these registration areas is approximately 245,000.

7. The most common causes of death amongst adults as far as can be ascertained are due to diseases of the respiratory system, e.g., pneumonia, bronchitis and phthisis. Amongst infants the commonest causes in descending order of frequency are marasmus (including inanition), premature birth, diarrhoea (including enteritis, gastro-enteritis, etc.), convulsions, bronchitis (including broncho-pneumonia) and malaria.

8. The most important means to combat these diseases are the improvement of the housing conditions, provision of good water supplies, surface drainage, latrines, anti-mosquito work and disposal of refuse.

9. There are four Infant Welfare Clinics (including one to which a hospital is attached) in which attempts are made to cope to some extent with the infant mortality. The attendances at the

clinics during 1927 were as follows:—

Accra	..	..	..	..	..	..	11,021
Christiansborg	..	..	..	..	..	..	5,521
Sekondi	..	..	..	..	..	..	15,964
Kumasi	..	..	..	..	..	..	9,769
							42,275

10. The general sanitation of the larger towns may be regarded as fairly satisfactory. 426,647 houses were inspected during eleven months with an average larval index of 1.14 per hundred. There were 3,791 prosecutions under the Destruction of Mosquitos Ordinance and 12,908 for insanitary conditions during the same time. The measures detailed in paragraph 8 are being carried out in all the large towns and as far as possible in the surrounding villages. Town planning is actively being carried on.

11. The most serious outbreak of disease was one of yellow fever which was characterised by the wide area over which cases were discovered. This disease was reported from Elmina to Accra along the coast line, up to Obuasi on the Sekondi-Kumasi railway up to Nsawam on the Accra-Kumasi railway, in Akuse, Late and Sra and in Kpeve, Ho and as far north as Kpando, which last three towns are in the Mandated Area of Togoland. The following table gives the number of cases and deaths:—

	African.	European.	Syrian.
Cases	60	14	3
Deaths	19	10	3

12. There have been a few sporadic cases of small-pox chiefly in the Northern Territories. Vaccination is carried out at various centres. All the deck passengers landing at the large ports are examined and vaccinated if necessary. 221,372 vaccinations were carried out.

13. A small epidemic of cerebro-spinal fever occurred in a bush village in the Obuasi district of the Eastern Province of Ashanti. Fortunately it was stamped out before the infection was conveyed to the larger centres.

14. In Suhum, an important village near Accra on a main road, thirty-two cases of Relapsing Fever with one death were reported. One non-fatal case was reported from Keta early in the year.

CHAPTER IX.—EDUCATION.

1. Education in the Gold Coast is voluntary and is mainly in the hands of Government and various missionary bodies of which the most important are the Presbyterian Church, the Ewe Presbyterian Church, the Wesleyan Mission, the Roman Catholic Mission, the African Methodist Episcopal Zion Mission and the English Church Mission. There are several undenominational schools and one assisted Mohammedan school.

2. Schools are officially recognised as of two kinds, assisted and non-assisted. An assisted school is one which has attained a certain standard of efficiency and receives a Government grant, while a non-assisted school receives no grant, generally because of the low standard of the work and the unsuitability of the buildings and equipment for scholastic purposes. Grants are awarded for general efficiency. They are calculated as a percentage of the expenditure on the salaries paid to teachers.

3. It was felt that Government ought to exercise a closer supervision over the non-assisted schools, so that the standard of work done might be raised and the buildings and equipment improved. Accordingly, the Education Ordinance No. 21 of 1925 was passed. By its provisions the Education Department can exercise some control over the staffing of these schools. Section 5 says "No person shall teach in any Government, assisted or non-assisted school unless he is registered on the Register of Teachers or on the Provisional List as may be prescribed." On the Register of Teachers are the names of those who have some definite qualification. The Provisional List is an emergency measure to prevent the wholesale closing of schools through the scarcity of trained or efficient teachers. On the Provisional List are placed for a limited period the names of those teachers whose qualifications are not good enough to entitle them to registration, but who were engaged in teaching before a certain date. If such a teacher proves himself capable, his name will be transferred to the Register. Gradually these teachers on the Provisional List will be replaced by teachers in the Register, and in the course of a few years the Provisional List should automatically disappear. By the application of the Ordinance a number of non-assisted schools have closed down through lack of staff. These are no loss to the Colony as the standard of work was so low that they did not deserve to be classed as schools.

4. In the Colony and Ashanti there are 17 Government Primary Schools having an enrolment of 3,693 boys and 1,040 girls with a total average attendance of 4,237. Five of these schools are in the Western Province, three in the Central Province, five in the Eastern Province and four in Ashanti. These schools are entirely supported and equipped from Government funds, and the total staff of teachers is 180, nearly all of whom hold

teachers' certificates. The staff of these schools is African except at two of the Girls Schools where a European mistress is in permanent charge.

5. The number of Mission assisted schools in the Colony and Ashanti is 235. The number of known non-assisted schools is 417.

6. The African Methodist Episcopal Zion Mission has two assisted Schools in the Central Province, four in the Trans-Volta district and one in Ashanti. The Presbyterian Church has eleven assisted schools in the Central Province, 67 in the Eastern Province five in the Trans-Volta district and 17 in Ashanti. The schools of the Ewe Presbyterian Church are all situated in the Trans-Volta district. The English Church Mission has three assisted schools in the Western Province, a boys' secondary school at Cape Coast in the Central Province, one school in the Eastern Province and two schools in Ashanti. Seven Roman Catholic Mission Schools (assisted) are situated in the Western Province, ten in the Central Province, eleven in the Trans-Volta district and four in Ashanti. The Wesleyan Mission has nine assisted schools in the Western Province, 18 primary and one secondary in the Central Province, 17 in the Eastern Province and five in Ashanti.

7. There is one undenominational school in Accra on the assisted list, and one Mohammedan school at Saltpond.

8. In the primary schools, in addition to the three R's, special attention is given to the teaching of hygiene, nature study and some form of handwork. The form which the handwork takes depends on the locality. In Government schools woodwork is often taught, while in rural schools attention is paid to mat-weaving, basket-making, brush-making, netting, etc. In girls' schools increasing attention is being paid to domestic science and child welfare. In the past parents showed a great reluctance to having their girls educated, but this antipathy is dying out. There is an increasing demand for education for girls, and several new schools are being built, and plans are being made for the erection of others. At present there are eleven schools in the Colony which are devoted solely to girls. In addition girls attend the ordinary primary schools and take practically the same course as the boys.

9. There are only two secondary schools in the Colony, viz., Mfantshipim of the Wesleyan Mission and St. Nicholas Grammar School of the English Church Mission. Both of these schools are in Cape Coast. They are always full and cannot accept all the applicants for admission. They are partly boarding schools and partly day schools. The curriculum is based on the requirements of the Cambridge School Certificate.

10. There is an increasing demand for technical education and this is entirely in the hands of the Government. The Accra Technical School provides a three years' course (practical and theoretical) in engineering and carpentry. This is the only school of its kind in the Colony and the demand for admission is so great that only a small percentage of the applicants can be admitted.

Plans are being made for extension so that more pupils may be admitted and the scope of the work increased.

11. To give a more elementary form of technical education four Junior Trade Schools have been built, one at Kibi in the Eastern Province, one at Assuantsi in the Central Province, one at Mampong in Ashanti and one at Tamale in the Northern Territories. At present there are 222 pupils in residence at these schools, of whom 71 are being trained in woodwork, 50 in masonry, 48 in agriculture and 53 in metalwork. These trades are taught along with the pupils' primary education, the time devoted to literary subjects being one-third of that spent in practical work. Specially promising pupils are given the opportunity of completing their technical training at the Accra Technical School. The object of these schools is to provide a preliminary training for boys who desire to become skilled artisans, but the main aim is the training and development of character and a sense of responsibility in the individual.

12. There are three training colleges for teachers in the Colony, viz.: The Government Training College at Achimota, the Presbyterian Church Training College at Akropong and Wesley College at Kumasi. The Government College trains teachers for its own schools and for any Mission or undenominational body, while the Presbyterian Church Training College and Wesley College train teachers for their own Missions only. At the three training colleges there are 446 students in residence. Students are admitted on completion of their primary school education and undergo four years of training. Education is free and each student is under bond to teach for at least five years in a Government or assisted school. All training colleges are subject to Government inspection.

13. A beginning was made last year with evening classes which may be described as successful. Africans are slowly beginning to realise that their education is not complete when they leave school, and that if they are to be successful in their careers further training is necessary. Literary and technical classes were arranged and a fair number attended. Arrangements are being made to extend the scope of these classes. Employers give their staff every facility to attend. Games, especially Association Football, continue to increase in popularity. Hockey is played regularly at some of the schools. Cricket is not so popular, possibly because of the expense of keeping up equipment, but it is encouraged in all Government Schools. Kibi Junior Trade School has begun to play Rugby football with considerable enthusiasm and success.

14. Girls attending the larger schools are becoming keener on games than they were a few years ago, and are beginning to realise that school is not merely a place for "book learning."

Prince of Wales' School and College, Achimota.

15. This Institution is designed to provide a continuous course of primary and secondary education, special attention being paid to training in character. Accommodation will eventually be available for 750 pupils.

16. Good progress is being made with the School buildings. The Class-Room blocks, the Science and Engineering blocks and four of the Dormitory blocks are now completed.

17. A great deal of progress has been made in laying out the grounds and the playing fields attached to the Institution. The College farm, which was started with a view to raising poultry and stock and for agricultural experiments generally, is being rapidly developed.

18. During the year 1927-28 there were 120 children (boys and girls) in the Kindergarten and Lower Primary classes. These classes are being taught in their own vernaculars and they are also learning conversational English. It is hoped to open the Secondary School in January, 1929. A large number of applications for admission have already been received.

19. In January, 1928, the Accra Training College for Teachers was removed to Achimota. There are 134 students in residence.

20. The Library has grown considerably, and is being increasingly taken advantage of by teachers throughout the country.

21. The College sustained a great loss in the death of Dr. Aggrey, Assistant Vice Principal in America, on July 27th, 1927.

CHAPTER X.—LAND AND SURVEYS.

LAND.

The cardinal principle adopted by Government in framing its land policy is that all land in the Colony belongs, or did originally belong to the native, and that all land has an owner. That it is not easy to translate this theory into practice is evidenced by the number of law suits relating to the boundaries of land that annually come before the Courts for decision.

2. A more detailed account of the native system of land tenure and the divisions recognised by Native Customary Law will be found on pages 275 to 279 of the "Gold Coast Handbook."

3. Government has power under the existing law, when land is required for public purposes, compulsorily to acquire it upon payment of compensation.

4. When land is required by individuals or companies for mining, agricultural or arboricultural purposes, it is necessary in certain cases to proceed under the Concessions Ordinance, which empowers the Court to impose such conditions upon the tenants as may seem desirable and just in the interests of the native land owners.

5. When land is required merely for building and such purposes it is usual to acquire in accordance with English conveyancing practice. The cost of land is heavy but varies a great deal according to locality.

6. A special Lands Department is at present in course of formation and will take over the duties hitherto performed by the Lands Branch of the Survey Department. This Department, which will be responsible for the conduct of land matters in the Colony in so far as they affect Government, will eventually have branch offices at Takoradi and Kumasi.

7. A Registry of Deeds is attached to the Supreme Court, but the duties of this office will be taken over in due course by the Lands Department. The revision of the present system of registration, with a view to promoting security of title to land is under consideration, and it is hoped by the completion of Key Maps to facilitate transactions in regard to land.

SURVEYS.

8. The Survey Department is divided into four main branches :—

- (a) Headquarters and Printing.
- (b) Cadastral Branch.
- (c) Topographical Branch.
- (d) Survey School.

9. The Printing Branch undertakes the printing of maps, including diagrams, etc., required for various departmental reports

and publications. It has also undertaken the printing of cadastral plans and topographical maps for the Sierra Leone Survey.

10. The Cadastral Branch is concerned with the production of town surveys, large-scale plans and plans required for acquisition or other purposes by the Lands Department. It consists of a Headquarters, Drawing and Computing offices and five Provincial Sections—one for each Province and Ashanti and one for work in the Accra District. In addition there are special temporary parties for the survey of the boundaries of forest reserves and the survey of a rigid framework for the Colony.

11. Town survey sheets on the $1/1250$ scale are available for most of the larger towns including Accra, Sekondi, Kumasi, Nsawam, Koforidua, Dunkwa, etc., and during the year the field work was completed on the town surveys of Cape Coast and Axim. The surveys of 16 forest reserves were also completed. This makes a total of 30 reserves surveyed up to date. The Special Framework Party also completed in the field 100 miles of primary traverse but the whole of this had not been computed by the end of the year. This party, however, was short-handed for the greater part of the year.

12. The Topographical Branch is concerned with the topographical survey of the Colony, the work being published on the $1/125,000$ and $1/62,500$ scales. By the end of March, 1928, 22 sheets had been published on the former scale and 90 on the latter. The total area surveyed to date is about 56,850 miles including 10,000 square miles surveyed in the Northern Territories before the war.

13. During the year under review the Printing Department has carried out a large amount of work for other Departments, and in addition it produced eight field sheets on the $1/62,500$ scale and two standard sheets on the $1/125,000$ scale. It also undertook the publication of an "Atlas" of the Gold Coast, a book containing 24 maps and graphs of various kinds.

14. The greater portion of the personnel of the Topographical Branch was engaged on the two International Boundary Surveys. Good progress was made on these and it is anticipated that the survey of the Western Frontier will be completed about July, 1928, but the Eastern Frontier will not be finished until about June, 1929.

15. The Kintampo, Banda, Navrongo and Tumu sheets, which were in hand last year, were completed, and a revision of the Accra standard sheet was commenced.

16. The Survey School exists for the training of African surveyors for the Survey Department, and it also undertakes the training of a certain number of African Building Inspectors for the Public Works Department. During the year eight pupils completed their course as surveyors and seven building inspectors, while a new class of 24 pupils commenced work in January, 1928. The School, which had previously been housed at Abetifi in buildings

lent by the Scottish Mission, moved in January, 1928, to new and up to date buildings erected for the purpose on the Dodowa Road, Accra.

GEOLOGICAL SURVEY.

17. For the first two months of the year under review the Director and three Geologists were engaged in field work in the Northern Territories in districts through which pass the surveyed alternative routes of the proposed Northern Territories railway.

18. The examination of the deposits of bauxite, discovered in the Yenahin district west of Kumasi, Ashanti, in 1923 was resumed and traverses made through the country between Yenahin and the Tano River.

19. Geological examinations and reports on the locality about the site of the proposed reservoir for the permanent water-supply of Kumasi were made, and also of the Koforidua locality with a view to the discovery of supplementary domestic supplies of water for that town.

20. The general results of the field-work may be briefly summarised under two heads:—I. Economic; II. Scientific.

I.—Economic Results.

BAUXITE.

21. (Aluminium ore). A further examination of the bauxite deposits of the Yenahin district, by the sinking of shafts and general field-work, has proved them to vary in thickness from about 20 feet to 50 feet. A large proportion of the material is of high grade, and the quantity is estimated at upwards of 100 million tons.

A good deal of bauxite was also found on the northern portion of the Atiwa Range near the source of the Pusu Pusu stream. Some of it is of very good quality, but much of it highly ferriferous.

MANGANESE ORE.

22. A deposit of considerable extent, estimated to contain several hundred thousand tons of manganese ore, was discovered in the Yenahin district. It is associated with the deposits of bauxite (aluminium ore). A good deal of this ore is of high grade.

At numerous places in the Northern Territories manganese-bearing phyllites have been located, and deposits of manganese ore found.

DIAMONDS.

23. Good prospects of diamonds were found by panning at various places hitherto untested by the Geological Survey in the basin of the Birim River in the Colony. Some of these are in areas held under mining lease; others are beyond their boundaries.

IRON.

24. Near Pudo in the eastern portion of the Tumu District, Northern Territories an area of considerable size strewn with small lumps and coarse gravel of titaniferous haematite was found north from Basisan.

PLATINUM.

25. From a dyke of ultrabasic rock north of Konchoggaw, eastern Tumu, Northern Territories a sample of rock analysed for platinum proved to contain that metal in very small quantities.

BUILDING—STONES AND POTTERY-CLAYS.

26. Many different types of highly serviceable building-stones for general engineering purposes were noted at numerous places in the Colony, Ashanti and the Northern Territories. Similarly clays of good quality for the commoner types of pottery were found.

WATER-POWER.

27. Observations and measurements of streams were made with regard to their possible value for hydro-electric purposes and irrigation.

II.—Scientific Results.

28. In the Yenahin district manganese ore has been discovered associated with bauxite.

PUBLICATIONS.

29. The publication of the Geological Map of the Gold Coast has been deferred for the incorporation in it of results of surveys in the Northern Territories connected with prospective railway extension.

Bulletin No. 3, "Report on the Gambia Colony" has been published.

Bulletin No. 4, "Report on the Microscopical Features and Chemical Analyses of Certain Representative Igneous Rocks from the Gold Coast" is in the press for publication.

CHAPTER XI.—LABOUR.

All over the Gold Coast may be found in large numbers illiterate labourers who have been attracted from the French territory to the north by the prospect of good work and wages. These, with the natives of the Northern Territories who have been led to travel southward by the same inducements, form the bulk of the unskilled labour supply. As workers they are reliable and strong and fairly adaptable without being conspicuous for intelligence; they are chosen for preference by European employers on most works involving manual labour. Wages average 1s. 6d. per day for men, and 1s. for women and boys.

2. The work on the farms and native buildings is done mainly by the owners and their families. Immigrant labourers are also employed, however, especially in gathering cocoa.

3. The demand for skilled labour is met by artisans trained by the various Government or Mission institutions and as apprentices in the Government Departments. Carpenters, blacksmiths, masons and mechanics are not difficult to obtain. They earn from 3s. 6d. to 5s. a day, or more, according to knowledge and experience.

CHAPTER XII.—MISCELLANEOUS.

Legislation.

(This section deals with the calendar year, 1927).

Gold Coast Colony.

1. During the year 34 Ordinances were passed by the Legislative Council, of which the following are those of more general interest:—

2. No. 8 of 1927, The Criminal Code Amendment Ordinance 1927, prohibits the publication in the press of advertisements relating to fortune telling, palmistry, astrology, and the like, such advertisements being likely to impose on members of the public

3. No. 13 of 1927, The Forests Ordinance, 1927, takes the place of the old Forests Ordinance (Chapter 95). The old law, which related only to unoccupied lands, was never applied. The 1927 Ordinance which repeals Chapter 95 provides for the creation of forest reserves on the following areas:—

- (1) Crown Land.
- (2) Tribal or Stool land.
- (3) Private land at the request of the owner.
- (4) Lands on which the destruction of forests is diminishing or is likely to diminish the water supply, or is injuring or is likely to injure the agricultural conditions of neighbouring lands, or is imperilling the continuous supply of forest produce to towns or villages on or contiguous to such lands.

4. No. 15 of 1927, The Provincial Councils (Further Provisions) Ordinance, 1927, implements the provisions of Clause XVI of the Gold Coast Colony (Legislative Council) Order in Council, 1925, which provides for the establishment of Provincial Councils of Paramount Chiefs in each Province of the Colony.

5. No. 18 of 1927, The Native Administration Ordinance, 1927, is in a large measure a consolidating Ordinance taking the place of the following Ordinances, viz.:—The Chiefs Ordinance, the Stool Property Detention Ordinance and the Native Jurisdiction Ordinance. At the same time it introduces a number of important changes in the law relating to native administration, viz.

(1) Under the Native Jurisdiction Ordinance the Native Tribunals had jurisdiction over natives who were members of a native community of the Gold Coast, Ashanti or the Northern Territories. Under the new Ordinance their jurisdiction extends, subject to certain exemptions, over persons of African descent who are natives of West Africa, or persons of African descent ordinarily residing within any of the above-mentioned territories.

(2) Recognition is given to the position of the State Councils in the native constitution. Provision is made for

the exercise by these Councils of important functions in connexion with the installation, abdication and deposition of Paramount and Divisional (subordinate) Chiefs. They are also given jurisdiction to deal with certain offences of a political nature.

(3) The Supreme Court ceases to exercise jurisdiction in cases touching political or constitutional disputes between native authorities, or in land cases arising between Paramount or Divisional Chiefs belonging to different States. Jurisdiction in such land cases is transferred to the newly constituted Provincial Councils, which are also empowered to deal with certain disputes of a constitutional nature, as well as with questions, matters or disputes referred to them by the Governor.

(4) The jurisdiction of the Tribunals is increased in many respects, that of the Paramount Chiefs' Tribunals now becoming considerably larger than that of the Divisional Chiefs' Tribunals.

6. Nos. 26 and 27 of 1927, The Gold Coast Defence Force Ordinance, 1927 and the Gold Coast Territorial Force Ordinance, 1927, provide for the establishment of European and African military forces for defence purposes.

7. No. 34 of 1927, The Takoradi Harbour Ordinance, 1927 which, as its name connotes, provides for the management of the new Harbour.

Ashanti.

8. During the year 1927 sixteen Ordinances were enacted with respect to Ashanti.

9. No. 6 of 1927, The Forests Ordinance, 1927, and No. 14 of 1927, The Gold Coast Defence and Territorial Force Ordinance, 1927, apply the corresponding Gold Coast Colony legislation to Ashanti.

10. Of the rest the only Ordinance requiring special notice is No. 10 of 1927, The Stool Treasuries Ordinance, 1927, which provides for the establishment of Stool Treasuries, and enables the Governor to make regulations, and the native authorities by-laws, in relation thereto.

Northern Territories.

11. Of the seven Ordinances passed with respect to the Northern Territories of the Gold Coast, the following are of special interest:—

12. No. 1 of 1927, The Land and Native Rights Ordinance. By this Ordinance all lands in the Northern Territories, with certain exceptions, are declared to be public lands, and are placed under the control and made subject to the disposition of the Governor for the common use and benefit of the natives. A title to the occupation and use of land is to be termed a right of occupancy, and it is lawful for the Governor to grant such right

to natives and non-natives on terms for which provision is made in the Ordinance. The Ordinance does not affect mining rights or interests, which remain subject to the Mineral Rights Ordinance, 1904.

13. No. 2 of 1927, The Land Disputes (Executive Settlement) Ordinance, 1927, empowers Commissioners of the Protectorate in their executive capacity to hear and determine disputes between natives relating to land. Disregard or defiance of a decision or settlement made under the Ordinance is to be deemed an offence. But the provisions of the Ordinance do not extend to the settlement of disputes in connexion with the Mineral Rights Ordinance, 1904, or with the Land and Native Rights Ordinance, 1927.

British Sphere of Togoland.

14. During the year 1927 two Ordinances were enacted with respect to the British Sphere of Togoland.

15. No. 1 of 1927, The Land Ordinance, 1927, excludes from operation with respect to the Northern Section of the British Sphere of Togoland the Northern Territories Ordinance entitled The Land and Native Rights Ordinance, 1927, and in effect applies to the former territory the provisions of the Northern Territories Ordinance entitled The Land Disputes (Executive Settlement) Ordinance, 1927.

Banking.

16. The Government banks with the various branches of the Bank of British West Africa and Barclay's Bank (Dominion, Colonial and Overseas).

17. The Bank of British West Africa, which commenced business in Accra on the 1st January, 1897, has opened branches at Axim, Sekondi, Tarkwa, Kumasi, Cape Coast, Saltpond, Winneba, Bekwai, Koforidua, Nsawam and Dunkwa, and agencies at Obuasi, Prestea and Half Assini.

18. The Colonial Bank, now Barclay's Bank (Dominion, Colonial and Overseas), established in Accra on the 24th February, 1917, has branches at Sekondi, Winneba, Kumasi, Koforidua and Nsawam.

19. A Government Savings Bank conducted by the Treasury was established in 1888. The business was transferred to the Post Office in 1905, and is rapidly increasing. The amount standing to the credit of depositors on 31st December, 1927 was £72,617, an increase of £5,693, over last year.

20. Penny Banks in connexion with the Post Office have also been established in the principal Government Schools.

Imperial Institute.

21. Showcases have been installed in the new site for the Court in the North Gallery, and specimens of products illustrating the more important industries have been arranged therein.

22. A series of exhibits illustrating the manufacture of cocoa and chocolate has been presented by Messrs. Cadbury and is on exhibition in the Court

23. A number of photographs illustrating Cocoa, Sisal, Lumbering, Diamond and Manganese Mining have been enlarged and are shown with their related exhibits in the Court.

24. Samples of Gold Coast rubber were included in the special display of Empire rubber at the Rubber Exhibition which was held at the Imperial Institute in December.

25. Progress has been made with the dioramas which are to be installed in the Court.

26. The Gold Coast Court was visited by Their Majesties the King and Queen on November 16th and by H.R.H. the Prince of Wales on January 12th.

27. Lectures on the Gold Coast and Gold Coast products have been given to school parties and others by the Guide Lecturers.

28. Specimens of Gold Coast products have been sent to enquirers and have also been included in the collections for use in school museums.

29. Pamphlets relating to the Gold Coast have been distributed from the Central Stand, where picture postcard views of the Gold Coast are on sale.

30. In July, 1927 a Cinema was installed at the Imperial Institute, funds for the construction and maintenance of which are provided by the Empire Marketing Board.

31. Two hundred and thirty-six showings of West African films have been made since the opening of the Cinema in July until 31st December, 1927. The total attendance in the Cinema during the period mentioned amounted to 135,545 persons, including 1,291 parties of children from colleges and schools in and near London.

APPENDIX A.

LIST OF CERTAIN PUBLICATIONS, PRICES THEREOF AND WHERE THEY MAY BE OBTAINED.

Publication.	Price.	From whom obtainable.
Address by the Governor on Estimates.	1/-	Colonial Secretary's Office, Accra, Gold Coast Commercial Intelligence Bureau, London.
Departmental Annual Reports (bound).	15/-	Colonial Secretary's Office, Accra, Crown Agents, London.
Blue Book.	15/-	Colonial Secretary's Office, Accra, Gold Coast Commercial Intelligence Bureau, London.
Civil Service List.	1/6d.	Colonial Secretary's Office, Accra.
Legislative Council Debates (bound).	10/6d.	Colonial Secretary's Office, Accra.
Gazettes.	1d. per leaf.	Colonial Secretary's Office, Accra, Crown Agents, London.
Gazettes—Annual Subscription.	£2	Colonial Secretary's Office, Accra, Crown Agents, London.
Gold Coast Handbook.	7/6	Colonial Secretary's Office, Accra, Crown Agents, London.
Gold Coast Review.	2/-	Colonial Secretary's Office, Accra, Commissioner of Western Province, Sekondi, Commissioner of Central Province, Cape Coast, Gold Coast Commercial Intelligence Bureau, London.
Customs Import and Export Lists.	2/-	Colonial Secretary's Office, Accra.
Customs Tariff and Customs House Guide.	3/-	H.M. Customs, Accra.

APPENDIX A—*continued.*

Publication.	Price.	From whom obtainable.
Geological Survey Bulletin No. 1—Outline of the Mineral and Water-Power Resources of the Gold Coast, British West Africa, with Hints on Prospecting.	1/-	Colonial Secretary's Office, Accra.
Road Guide.	2/-	Colonial Secretary's Office, Accra.
The Gold Coast: Some Consideration of its Structure, People and Natural History.	1/-	Colonial Secretary's Office, Accra.

APPENDIX B.

AGENTS FOR THE SALE OF GOLD COAST MAPS.

Maps.	Price.	From whom obtainable.
		<i>In Great Britain.</i>
Wall Map of Colony, 2nd Edition, 1927.—Size 66 x 88 inches, Scale 1-69 inches to 10 miles. Mounted on cloth and rollers.	£1 10s. od.	W. & A. K. Johnston, Ltd., Easter Road, Edinburgh.
General Map of Colony and dependencies—Size 31 x 21 inches. Scale 1/1,000,000.	Folded 8/- Flat 4/-	Edward Stanford, Ltd., 12-14, Long Acre, London, W.C.2.
Standard Map.—Scale 1/125,000, or nearly two miles to the inch.	Folded 4/- Flat 2/-	Sifton Praed & Co., Ltd., 67, St. James Street, London, W.C.1.

AGENTS FOR THE SALE OF GOLD COAST MAPS.—*contd.*

Maps.	Price.	From whom obtainable.
		<i>In Great Britain.</i>
Town Plans.—Accra, scale 1/1,250.	2/-	Philip, Son & Nephew, 20 Church Street, Liverpool.
do. Scale 1/350, in two sheets.	2/- each Folded 8/-	J. E. Cornish, Ltd., 16, St. Ann's Square, Manchester.
		<i>In the Gold Coast.</i>
do. Kumasi, scale 1/6,250, in two sheets.	2/- each Folded 8/-	Surveyor-General, Cantonments, Accra.
do. Scale 1/1,250.	2/- per copy.	African & Eastern Trade Corporation, Ltd., Accra and branches.
Topographical Map.— Scale 1/62,500, or nearly one inch to one mile.	Folded 4/- Flat 2/-	Wesleyan Methodist Book Depot, Cape Coast, Kumasi and Sekondi.
Road Map.—1/500,000. Shows all motor routes with official numbers of sections.	Folded 8/- Flat 4/-	do.

N.B.—The address of the Colonial Secretary's Office is P.O.
Box No. 140, Accra, Gold Coast.

The address of the Gold Coast Commercial Intelligence
Bureau is Abbey House, 8 Victoria Street, Westminster, S.W.

Tuarasgabhail

ON

gCo-Choiste ar Cho-dheanamh Sheanad Eireann

MAILLE LE

9

HIMEACHTA AN CHO-CHOISTE.

Do hOrduíodh, ag an Dáil, do chlóbhuála an 16^o Bealtaine, 1928.

Do hOrduíodh, ag an Seanad, do chlóbhuála an 16^o Bealtaine, 1928.

Report

OF THE

Joint Committee on the Constitution of Seanad Eireann

TOGETHER WITH

PROCEEDINGS OF THE JOINT COMMITTEE.

Ordered, by the Dáil, to be printed on the 16th May, 1928.

Ordered, by the Seanad, to be printed on the 16th May, 1928.

INNTRÍ CHATHAIL AGUS A gCUID, TEORANTA, Clóidírí do Rialtas Shaorstáit Eireann,
do Chlóbhuail.

OIFIG AN tSOLATHAIR D'FHOILLSIGH.

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SEANAD EIREANN.

ORDUITHE TAGARTHA.

15^o Feabhra, 1928.—*Beartuithe*: Go bhfuil sé oiriúnach C6-Choiste, ar a mbeidh cúigear ball den Dáil agus cúigear ball den tSeanad, maraon le Ceann Comhairle na Dála agus Cathaoirleach an tSeanaid mar bhaill *ex officio*, do bhunú chun breithniú do dhéanamh agus tuairisc do thabhairt ar na hatharuithe is gá a dhéanamh, más gá aon cheann, ar chó-dhéanamh agus ar chomhachta Sheanad Eireann agus ar na modhanna toghacháin chun Seanad Eireann (*Seán O Fearghail*).

Orduithe: Go gcuirtear Teachtaireacht chun na Dála chun an Rún so do chur in úil dóibh agus chun a n-aontú do lorg.

1^o Márta, 1928.—Teachtaireacht ón Dáil go n-aontuonn an Dáil leis an Seanad san Rún réamh-ráite.

Orduithe: Go ndintar C6-Choiste ar a mbeidh cúigear ball den Dáil agus cúigear ball den tSeanad, maraon le Ceann Comhairle na Dála agus Cathaoirleach an tSeanaid mar bhaill *ex officio*, do bhunú chun breithniú do dhéanamh agus tuairisc do thabhairt ar na hatharuithe is gá a dhéanamh, más gá aon cheann, ar chó-dhéanamh agus ar chomhachta Sheanad Eireann agus ar na modhanna toghacháin chun Seanad Eireann (*Seán O Fearghail*).

Orduithe: Teachtaireacht do chur chun na Dála á chur san in úil dóibh.

Orduithe: Tomás Beinéid, Séamas Dubhglas, Aindrias Mac Séamais, Mícheál O hArdluain agus Seán O Fearghail, maraon le Cathaoirleach an tSeanaid *ex officio*, do cheapa chun fónamh ar an gC6-Choiste (*Seán O Fearghail*).

ORDERS OF REFERENCE.

15th February, 1928.—*Resolved*: That it is expedient that a Joint Committee consisting of five members of the Dáil and five members of the Seanad, with the Chairman of each House *ex officio*, be set up to consider and report on the changes, if any, necessary in the constitution and powers of, and methods of election to Seanad Eireann (*Senator O'Farrell*).

Ordered: That a Message be sent to the Dáil to communicate this Resolution and to desire their concurrence.

1st March, 1928.—Message from the Dáil that the Dáil concurs with the Seanad in the aforementioned Resolution.

Ordered: That a Joint Committee consisting of five members of the Dáil and five members of the Seanad, with the Chairman of each House *ex officio*, be set up to consider and report on the changes, if any, necessary in the constitution and powers of, and methods of election to Seanad Eireann (*Senator O'Farrell*).

Ordered: That a Message be sent to the Dáil acquainting them accordingly.

Ordered: That Senators Bennett, Douglas, Jameson, O'Hanlon and O'Farrell, with the Cathaoirleach *ex officio*, be appointed to serve on the Joint Committee (*Senator O'Farrell*).

DÁIL EIREANN.

22^o Feabhra, 1928.—Teachtaireacht ón Seanad—Go bhfuil Seanad Eireann tar éis an Rún so leanas do rith, le n-ar mian leo aontú Dáil Eireann d'fháil:—Go bhfuil sé oiriúnach C6-Choiste, ar a mbeidh cúigear ball den Dáil agus cúigear ball den tSeanad, maraon le Ceann Comhairle na Dála agus Cathaoirleach an tSeanaid mar bhaill *ex officio*, do bhunú chun breithniú do dhéanamh agus tuairisc do thabhairt ar na hatharuithe is gá a dhéanamh, más gá aon cheann, ar chó-dhéanamh agus ar chomhachta Sheanad Eireann agus ar na modhanna toghacháin chun Seanad Eireann.

22nd February, 1928.—Message from the Seanad—That Seanad Eireann has passed the following Resolution in which the concurrence of Dáil Eireann is desired:—That it is expedient that a Joint Committee consisting of five members of the Dáil and five members of the Seanad, with the Chairman of each House *ex officio*, be set up to consider and report on the changes, if any, necessary in the constitution and powers of, and methods of election to Seanad Eireann.

Beartuithe: Go n-aontuionn an Dáil leis an Seanad san Rún réamh-ráite a cuireadh in úil don Dáil an 15^o lá d'Fheabhra (*Aire Rialtais Aitiúla agus Sláinte Púiblí*).

Orduithe: Teachtaireacht do chur chun an tSeanaid á chur san in úil dóibh.

1^o Márta, 1928.—Teachtaireacht ón Seanad—Go bhfuil Seanad Eireann tar éis an tOrdú so leanas do dhéanamh:—Go ndintar C6-Choiste ar a mbeidh cúigear ball den Dáil agus cúigear ball den tSeanad, maraon le Ceann Comhairle na Dála agus Cathaoirleach an tSeanaid mar bhaill *ex officio*, do bhunú chun breithniú do dhéanamh agus tuairisc do thabhairt ar na hatharuithe is gá a dhéanamh, más gá aon cheann, ar chó-dhéanamh agus ar chomhachta Sheanad Eireann agus ar na modhanna toghacháin chun Seanad Eireann.

Orduithe: Go ndintar C6-Choiste ar a mbeidh cúigear ball den Dáil agus cúigear ball den tSeanad, maraon le Ceann Comhairle na Dála agus Cathaoirleach an tSeanaid mar bhaill *ex officio*, do bhunú chun breithniú do dhéanamh agus tuairisc do thabhairt ar na hatharuithe is gá a dhéanamh, más gá aon cheann, ar chó-dhéanamh agus ar chomhachta Sheanad Eireann agus ar na modhanna toghacháin chun Seanad Eireann (*Aire Rialtais Aitiúla agus Sláinte Púiblí*).

Orduithe: Go n-ainmneoidh an Coiste Roghnathóireachta cúigear Teachtaí, chun fónamh ar an gC6-Choiste (*Aire Rialtais Aitiúla agus Sláinte Púiblí*).

2^o Márta, 1928.—Teachtaí ceaptha chun fónamh ar an gC6-Choiste:—Eamon de Valera, Domhnall O Muirgheasa, Gearóid O Súilleabháin, Pádraig Ruithléis agus Micheál O Tighearnaigh, maraon le Ceann Comhairle na Dála *ex officio*.

Resolved: That the Dáil concurs with the Seanad in the aforementioned Resolution communicated to the Dáil on the 15th day of February (*Minister for Local Government and Public Health*).

Ordered: That a Message be sent to the Seanad acquainting them accordingly.

1st March, 1928.—Message from the Seanad—That Seanad Eireann has made the following Order:—That a Joint Committee consisting of five members of the Dáil and five members of the Seanad, with the Chairman of each House *ex officio*, be set up to consider and report on the changes, if any, necessary in the constitution and powers of, and methods of election to, Seanad Eireann.

Ordered: That a Joint Committee consisting of five members of the Dáil and five members of the Seanad with the Chairman of each House *ex officio*, be set up to consider and report on the changes, if any, necessary in the constitution and powers of, and methods of election to Seanad Eireann (*Minister for Local Government and Public Health*).

Ordered: That the Committee of Selection nominate five Deputies to serve on the Joint Committee (*Minister for Local Government and Public Health*).

2nd March, 1928.—Deputies appointed to serve on the Joint Committee:—Deputies de Valera, Morrissey, G. O'Sullivan, Rutledge and Tierney, with the Ceann Comhairle *ex officio*.

CLAR.

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TUARASGABHAIL.

An Có-Choiste a bunaíodh chun breithniú do dhéanamh agus tuairise do thabhairt ar na hatharuithe is gá a dhéanamh, más gá aon cheann, ar chó-dhéanamh agus ar chombachta Sheanad Éireann agus ar na modhanna toghacháin chun Seanad Éireann táid tar éis teacht ar an aigne seo a leanas:—

Có-dhéanamh Sheanad Éireann.

1. Molann an Có-Choiste líon ball Sheanad Éireann do bheith mar atá; triocha bliain do bheith mar aois mhínimum chun duine do bheith iontoghtha mar bhall de Sheanad Éireann; naoi mbliana do bheith mar théarma oifige do bhall de Sheanad Éireann agus trian na mball do thogha gach tríú bliain.

Modhanna Toghacháin chun Seanad Éireann.

2. Isé tuairim an Chó-Choiste nách maith an rud baill do thogha chun Seanad Éireann le vóta díreach na ndaoine agus molaíod go dtoghfaí baill Sheanad Éireann ag baill Dháil Éireann agus Sheanad Éireann ag vótáil le chéile do réir phrionsiobal Ionadaíochta Cothromúla.

3. Do shoerúigh an Có-Choiste ar a mhola, i geóir toghachán chun Seanad Éireann, go ndéanfadh Coláiste Ainmniúcháin do bunófaí chuige sin ainmliost d'iarrthóirí do chur le chéile ach a bheith de cheart ag Dáil Éireann agus ag Seanad Éireann ainmniúcháin do chur ar an ainmliost suas go dtí maximum áirithe—an Coláiste Ainmniúcháin do bheith có-dhéanta d'ionadaithe do chomlachaisí, do chó-ghléasanna, no do chóluchtaí a bhaineann leis na nithe seo a leanas, eadhon, Talmhaíocht, Oibreacht, Oideacht, Tráchtáil, agus Feabhsú Náisiúnta. Toisc a dheacracht a bhí se, ámh, don Chó-Choiste teacht ar aon intinn i dtaobh modha shásúla chun a leithéid sin de Choláiste do chur le chéile do shoerúigh an Có-Choiste gan a thuille breithnithe do dhéanamh ar mhion-choda scéime, ach a mhola go seriosfaí amach na forálacha atá sa Bhunreacht i dtaobh an ainmliost do chur le chéile agus foráil do chur isteach aon go ndéanfaí an t-ainmliost do chur le chéile i slí atá le socrú le gnáth-reachtúcháin.

4. I gcás a bheith de cheart ag Seanad Éireann iarrthóirí d'ainmniú chun an ainmliost molann an Có-Choiste, maidir le Seanadóirí a bheidh ag dul as oifig, gan a bheith de cheart acu, mar Sheanadóirí den tsórt san, iad do chur ar aon ainmliost d'iarrthóirí a cuirfar le chéile chun baill do thogha chun Seanad Éireann.

5. Molann an Có-Choiste, má glactar leis an Mola atá i Mír 2 den Tuarasgabháil seo, go ndéanfaí foth-fholúntas i Seanad Éireann do líona tríd an mbun-chólucht toghacháin do thogha

REPORT.

REPORT.

The Joint Committee set up to consider and report on the changes, if any, necessary in the constitution and powers of, and methods of election to Seanad Eireann has come to the following conclusions:—

Constitution of Seanad Eireann.

1. The Joint Committee recommends that the number of members of Seanad Eireann be as at present; that the minimum age for eligibility for membership of Seanad Eireann be thirty years; that the term of office of a member of Seanad Eireann be nine years and that one-third of the members be elected every three years.

Methods of Election to Seanad Eireann.

2. The Joint Committee is of opinion that election to Seanad Eireann by direct vote of the people is undesirable and recommends that the members of Seanad Eireann be elected by the members of Dáil Eireann and of Seanad Eireann voting together on principles of Proportional Representation.

3. The Joint Committee decided to recommend that for the purpose of elections to Seanad Eireann a panel of candidates be formed by a Nominating College created for that purpose, subject to the right of Dáil Eireann and Seanad Eireann to add nominations to the panel not exceeding a fixed maximum—the Nominating College to be composed of representatives of associations, organisations, or bodies representing the following interests, viz., Agriculture, Labour, Education, Commerce and National Development. In view, however, of the difficulty in finding agreement in the Joint Committee as to a satisfactory method of constituting such a College the Joint Committee decided not to proceed to consider further the details of a scheme, but to recommend that the present provisions of the Constitution as to the formation of the panel be deleted and a provision be inserted therein that the panel shall be formed in a manner to be determined by ordinary legislation.

4. In the event of Seanad Eireann having the right to nominate candidates to the panel the Joint Committee recommends that outgoing Senators, as such, should not have the right to be included in any panel of candidates which may be formed for an election of members of Seanad Eireann.

5. The Joint Committee recommends that, if the Recommendation contained in Paragraph 2 of this Report be adopted, a casual vacancy in Seanad Eireann be filled by election by the original

duine chuige agus go mbeadh an duine a toghfí chun an fhoth-fholúntais sin i seilbh oifige go dtí an chéad ghnáth-thoghachán eile chun Seanad Éireann.

Comhachta Sheanad Éireann.

6. Molann an C6-Choiste, má glactar leis an Mola atá sa chéad mhír eile a leanas anso, go ndéanfi Airtíogal 47 den Bhunreacht do leasú i slí go mbeadh Seanad Éireann gan comhact acu Referendum d'éileamh ach amháin i gcás Bille chun an Bunreacht do leasú.

7. Molann an C6-Choiste Airtíogal 38 den Bhunreacht do leasú sa chéill seo:—

(a) má dhiúltaíonn Seanad Éireann do Bhille (nách Bille Airgid) do tionsenadh i nDáil Éireann agus do rith Dáil Éireann no má ritheann Seanad Éireann é tar éis leasuithe do dhéanamh air agus ná haontóidh Dáil Éireann leis na leasuithe sin, cuirfar an Bille sin ar fiunraoi. Más rud é, tar éis na tréimhse orduithe, go gcuirfidh Dáil Éireann an Bille arís chun Seanad Éireann, sa bhfuirm dheiridh in ar rith Dáil Éireann é agus in ar dhiúltaigh Seanad Éireann do (agus aon atharuithe air a dheimhneoidh Ceann Comhairle Dháil Éireann do bheith riachtanach de bharr imeacht aimsire), agus go dteipfidh ar Sheanad Éireann an Bille do rith laistigh de dhá mhí caileandair ina dhiaidh sin gan leasú no fé pé leasuithe le n-a n-aontóidh Dáil Éireann tuigfar, ar rún do rith do Dháil Éireann, an Bille sin do bheith rithe ag an dá Thigh;

(b) tosnóidh an tréimhse orduithe an lá a céad-chuirfar an Bille sin chun Seanad Éireann agus críochnóidh sí i gceann ocht mí dhéag caileandair ón lá san mara scuirtar an tOireachtas laistigh den tréimhse sin agus sa chás san críochnóidh an tréimhse an lá a haththionólfar an tOireachtas tar éis an scuir sin.

8. Molann an C6-Choiste Airtíogal 39 den Bhunreacht do leasú i slí is go bhforálfar leis, maidir le Bille a tionsenófar i Seanad Éireann agus a rithfidh Seanad Éireann agus a leasóidh Dáil Éireann, go mbeidh an Bille sin, chun é do rith ina dhlí, sa staid chéanna ina mbeadh sé dá mba i nDáil Éireann do tionsenófi é agus dá réir sin go mbeidh sé fé réir na bhforálacha atá leagtha amach sa mhola i Mír 7 thuas. Molann an Ch6-Choiste fós go seriosfi amach na focail “Má diúltaítear i nDáil Éireann é ní tabharfar isteach arís é sa tsiosón chéanna, ach féadfaidh Dáil Éireann é d'aith-bhreithniú ar a tairisgint féin.”

9. Molann an Ch6-Choiste Airtíogal 35 den Bhunreacht do leasú sa chéill seo: más rud é, laistigh de sheacht lá tar éis do Cheann Chomhairle Dháil Éireann aon Bhille do dheimhniú mar Bhille

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electing body, and that the person elected to fill such vacancy hold office until the next ordinary election to Seanad Eireann.

Powers of Seanad Eireann.

6. The Joint Committee recommends, subject to the Recommendation in the next following Paragraph herein being accepted, that Article 47 of the Constitution be amended so as to remove from Seanad Eireann the power to demand a Referendum save in the case of a Bill to amend the Constitution.

7. The Joint Committee recommends that Article 38 of the Constitution be amended to the effect that:—

(a) if a Bill (not being a Money Bill) initiated in and passed by Dáil Eireann is rejected by Seanad Eireann or is passed by Seanad Eireann with amendments to which Dáil Eireann does not agree, such Bill shall be suspended. If, after the prescribed period, the Bill, in the form in which it was last passed by Dáil Eireann and rejected by Seanad Eireann (subject to any changes certified by the Chairman of Dáil Eireann to be necessary by reason of lapse of time), is again sent by Dáil Eireann to Seanad Eireann and Seanad Eireann within two calendar months thereafter fails to pass the Bill either without amendment or with such amendments as Dáil Eireann shall agree to, such Bill shall, on resolution of Dáil Eireann, be deemed to be passed by both Houses;

(b) the prescribed period shall commence on the day on which the said Bill is first sent to Seanad Eireann and shall end at the expiration of eighteen calendar months from that day unless within the said period a dissolution of the Oireachtas takes place, in which latter event the period shall end on the day of the reassembly of the Oireachtas following such dissolution.

8. The Joint Committee recommends that Article 39 of the Constitution be amended to provide that a Bill initiated in and passed by Seanad Eireann which has been amended by Dáil Eireann shall, for the passage of the Bill into law, be in the same position as if the Bill had been initiated in Dáil Eireann and shall accordingly be subject to the provisions set out in the Recommendation in Paragraph 7 above. The Joint Committee further recommends the deletion of the words, "If rejected by Dáil Eireann it shall not be introduced again in the same session, but Dáil Eireann may reconsider it on its own motion."

9. The Joint Committee recommends that Article 35 of the Constitution be amended to the effect that if within seven days after any Bill has been certified by the Chairman of Dáil Eireann

TUARASGABHAIL.

Airgid no tar éis do Dháil Eireann Bille a bheidh deimhnith-amhlaidh do rith, pe'ca aca is déanaí a thárlóidh, go n-éileoidh dhá chúigiú de bhaill aon Tighe é, le fógra i scríbhinn do Cheann Chomhairle an Tighe dar baill iad, no go mbeartófar amhlaidh ag móráireamh de bhaill Sheanad Eireann agus iad i láthair agus ag vótáil ag suidhe a bheidh ag Seanad Eireann agus triocha ball a a laighead i láthair, déanfar an cheist i dtaobh ce'ca Bille Airgid no nách ea an Bille d'fhágaint fé Choiste ar Phríbhléidí ar a mbeidh trí baill a thogfaidh gach Tigh agus mar Cheann Chomhairle ortha an breitheamh is aoirde céim den Chúirt Uachtarach a bheidh ábalta agus toilteannach ar fheidhmiú, agus a bheidh i gcás có-ionannas vótanna, agus sa chás san amháin, i dteideal vótála. Ní bheidh aon dul thar breith an Choiste ar an gceist.

10. Molann an Có-Choiste an dí-cháilíocht fé n-a bhfuil baill Sheanad Eireann fé láthair chun bheith ina mbaill den Ard-Chomhairle do chur ar ceal.

Tuigeann an Có-Choiste, má glactar leis na Molta san roimhe seo, nách foláir forálacha díombuana do dhéanamh maraon le hatharuithe sa Bhunreacht agus sa dlí go generálta. Ní dó leis an gCó-Choiste gur gá molta do dhéanamh i dtaobh na nithe seo.

(Sighnithe)

MÍCHEÁL O HAODHA,

16^o Bealtaine, 1928.

Cathaoirleach.

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to be a Money Bill or after a Bill so certified has been passed by a majority of two-fifths of the members of either House by notice in writing addressed to the Chairman of the House of which they are members or a majority of the members of Seanad Eireann present at a sitting of Seanad Eireann at which not less than thirty members are present so resolve, the question whether a Bill is or is not a Money Bill shall be referred to a Committee of Privileges consisting of three members elected by each House with a Chairman who shall be the senior judge of the Court able and willing to act, and who, in the case of an equality of votes, but not otherwise, shall be entitled to vote. The decision of the Committee on the question shall be final and conclusive.

10. The Joint Committee recommends that the present disqualification of members of Seanad Eireann for membership of the Executive Council be removed.

The Joint Committee recognises that the foregoing Recommendations, if adopted, will necessitate provisions of a transitory character and consequential changes in the Constitution and in the law generally. The Joint Committee does not consider it necessary to make recommendations as to these matters.

(Signed) MÍCHEÁL O hAODHA,

16th May, 1928.

Chairman.

IMEACHTA AN CHO-CHOISTE.

IMEACHTA AN CHO-CHOISTE.

PROCEEDINGS OF THE JOINT COMMITTEE.

Déardaoin, 8adh Márta, 1928.

Thursday, 8th March, 1928.

1. Chruinnigh an Có-Choiste ar a.m.
1. The Joint Committee met at 11 a.m.
2. *I láthair*: An Ceann Comhairle, Cathaoirleach an tSeanad; Eamon de Valera, Domhnall O Muirgheasa, Gearóid O Súilleabháin, Pádraig Ruithléis agus Mícheál O Tighearnaigh, Teachtaí; Tomás Beineid, Séamas Dubhglas, Aindrias Mac Séamais, Seán O Fearghail agus Mícheál O hAnnluain, Seanadóirí.
2. *Present*: The Ceann Comhairle, The Cathaoirleach of the Seanad; Deputies de Valera, Morrissey, G. O'Sullivan, Rutledge and Tierney; Senators Bennett, Douglas, Jameson, O'Farrell and O'Hanlon.
3. Tairisgint déanta (*Mícheál O hAnnluain*):
"That the Ceann Comhairle be Chairman of the Joint Committee."
Ceist curtha, agus aontuithe.
Chuaidh an Ceann Comhairle i gCeannas.
3. Motion made (*Senator O'Hanlon*):
Question put, and agreed to.
The Ceann Comhairle took the Chair.
4. *Orduithe*: Seachtar a bheith mar quorum ar a mbeidh beirt bhall ar a laighead de gach Tigh [*Eamon de Valera*].
4. *Ordered*: That the quorum be seven, including at least two members of each House [*Deputy de Valera*].
5. *Orduithe*: Gan éinne nách Teachta no Seanadóir do bheith i láthair le linn imeachta an Chó-Choiste [*Tomás Beineid*].
5. *Ordered*: That no persons other than Deputies or Senators be present during the proceedings of the Joint Committee [*Senator Bennett*].
6. Tairisgint déanta (*Tomás Beineid*):
"That the Joint Committee first discuss the methods of nomination and election to the Seanad."
6. Motion made (*Senator Bennett*):
Motion, by leave, *withdrawn*.
7. Do cuireadh an Có-Choiste ar ath-ló ar 12.20 p.m. go dtí 3 p.m. Dé Máirt seo chughainn.
7. The Joint Committee adjourned at 12.20 p.m. until 3 p.m. Tuesday next.

Dé Máirt, 13adh Márta, 1928.

Tuesday, 13th March, 1928.

1. Chruinnigh an Có-Choiste ar 3 p.m.
1. The Joint Committee met at 3 p.m.
2. *I láthair*: An Ceann Comhairle (i gCeannas), Cathaoirleach an tSeanad; Eamon de Valera, Domhnall O Muirgheasa; Gearóid O Súilleabháin, Pádraig Ruithléis agus Mícheál O Tighearnaigh, Teachtaí; Tomás Beineid, Séamas Dubhglas, Aindrias Mac Séamais, Seán O Fearghail agus Mícheál O hAnnluain, Seanadóirí.
2. *Present*: The Ceann Comhairle (in the Chair), The Cathaoirleach of the Seanad; Deputies de Valera, Morrissey, G. O'Sullivan, Rutledge and Tierney; Senators Bennett, Douglas, Jameson, O'Farrell and O'Hanlon.

PROCEEDINGS OF THE JOINT COMMITTEE.

3. Tairisgint déanta (*Cathaoirleach an tSeanaid*):

"That changes are necessary in the constitution and powers of, and methods of election to Seanad Éireann."

Ceist curtha, agus aontuithe.

4. Do cuireadh an Có-Choiste ar ath-ló ar 5.45 p.m. go dtí Dé Máirt seo chughainn.

3. Motion made (*Cathaoirleach of the Seanad*):

"That changes are necessary in the constitution and powers of, and methods of election to Seanad Éireann."

Question put, and agreed to.

4. The Joint Committee adjourned at 5.45 p.m. until Tuesday next, the hour of meeting to be fixed by the Chairman.

Déardaoin, 22adh Márta, 1928.

Thursday, 22nd March, 1928.

1. Chruinnigh an Có-Choiste ar 11 a.m.

2. *I láthair*: An Ceann Comhairle (i gCeannas), Cathaoirleach an tSeanaid; Domhnall O Muirgheasa, Pádraig Ruithléis agus Mícheál O Tighearnaigh, Teachtaí; Tomás Beinéid, Séamas Dubhglas, Aindrias Mac Séamais, Seán O'Fearghail agus Mícheál O hAnluain, Seanadóirí.

3. Tairisgint déanta (*Tomás Beinéid*):

"That the Joint Committee deal with the question of election to the Seanad directly by the people before considering the question of the powers of the Seanad."

Ceist curtha; do dhin an Có-Choiste vótáil; Tá, 6; Níl, 3.

Tá: Cathaoirleach an tSeanaid; Mícheál O Tighearnaigh, Teachta; Tomás Beinéid, Séamas Dubhglas, Aindrias Mac Séamais agus Mícheál O hAnluain, Seanadóirí.

Níl: Domhnall O Muirgheasa agus Pádraig Ruithléis, Teachtaí; Seán O'Fearghail, Seanadóir.

Do faisnéiseadh dá réir sin go rabhthas tar éis glaca leis an dtairisgint.

4. TOGHACHAN CRUN AN tSEANAID. Tairisgint déanta (*Mícheál O Tighearnaigh*):

"That election to the Seanad by direct vote of the people is undesirable."

Ceist curtha; do dhin an Có-Choiste vótáil; Tá, 5; Níl, 4.

Tá: Cathaoirleach an tSeanaid; Pádraig Ruithléis agus Mícheál O Tighearnaigh, Teachtaí; Séamas Dubhglas agus Aindrias Mac Séamais, Seanadóirí.

Níl: Domhnall O Muirgheasa, Teachta; Tomás Beinéid, Seán O'Fearghail agus Mícheál O hAnluain, Seanadóirí.

Do faisnéiseadh dá réir sin go rabhthas tar éis glaca leis an dtairisgint.

1. The Joint Committee met at 11 a.m.

2. *Present*: The Ceann Comhairle (in the Chair), The Cathaoirleach of the Seanad; Deputies Morrissey, Rutledge and Tierney; Senators Bennett, Douglas, Jameson, O'Farrell and O'Hanlon.

3. Motion made (*Senator Bennett*):

"That the Joint Committee deal with the question of election to the Seanad directly by the people before considering the question of the powers of the Seanad."

Question put; the Joint Committee divided; For, 6; Against, 3.

For: Cathaoirleach of the Seanad; Deputy Tierney; Senators Bennett, Douglas, Jameson and O'Hanlon.

Against: Deputies Morrissey and Rutledge; Senator O'Farrell.

The motion was declared carried accordingly.

4. ELECTION TO THE SEANAD.

Motion made (*Deputy Tierney*):

"That election to the Seanad by direct vote of the people is undesirable."

Question put; the Joint Committee divided; For, 5; Against, 4.

For: Cathaoirleach of the Seanad; Deputies Rutledge and Tierney; Senators Douglas and Jameson.

Against: Deputy Morrissey; Senators Bennett, O'Farrell and O'Hanlon.

The motion was declared carried accordingly.

IMEACHTA AN CHO-CHOISTE.

5. Do cuireadh an C6-Choiste ar ath-l6 ar 12.35 p.m. go dt6 11 a.m. Déardaoin seo chughainn.

5. The Joint Committee adjourned at 12.35 p.m. till 11 a.m. Thursday next.

Déardaoin, 29adh Márta, 1928.

Thursday, 29th March, 1928.

1. Chruinnigh an C6-Choiste ar 11 a.m.

1. The Joint Committee met at 11 a.m.

2. *I láthair:* An Ceann Comhairle (i gCeannas), Cathaoirleach an tSeanaid; Eamon de Valera, Domhnall O Muirgheasa agus Mícheál O Tighearnaigh, Teachtaí; Tomás Beineid, Séamas Dubhglas, Aindrias Mac Séamais, Seán O Fearghail agus Mícheál O hAnluain, Seana-dóiri.

2. *Present:* The Ceann Comhairle (in the Chair), The Cathaoirleach of the Seanad; Deputies de Valera, Morrissey and Tierney; Senators Bennett, Douglas, Jameson, O'Farrell and O'Hanlon.

3. TOGHACHAN CHUN AN tSEANAID. Tairisgint déanta (*Cathaoirleach an tSeanaid*):

3. ELECTION TO THE SEANAD. Motion made (*Cathaoirleach of the Seanad*):

"That the Joint Committee recommends that the Seanad be elected by the Dáil and Seanad, each House electing one-half the number of members to be elected, on principles of Proportional Representation."

Tairisgint, fé chead, *tairgthe siar.*

Motion, by leave, *withdrawn.*

Tairisgint eile déanta (*Eamon de Valera*):

Another motion made (*Deputy de Valera*):

"That the Joint Committee recommends that the members of the Seanad be elected by the members of the Dáil voting on principles of Proportional Representation."

Leasú tairgthe (*Mícheál O Tighearnaigh*):

Amendment proposed (*Deputy Tierney*):

"To delete the word 'voting' and add after the word 'Dáil' the words 'and Seanad voting together.'"

Ceist curtha: do dhin an C6-Choiste v6táil; Tá, 7; Níl, 2.

Question put: the Joint Committee divided; For, 7; Against, 2.

Tá: Cathaoirleach an tSeanaid; Mícheál O Tighearnaigh, Teachta; Tomás Beineid, Séamas Dubhglas, Aindrias Mac Séamais, Seán O Fearghail agus Mícheál O hAnluain, Seana-dóiri.

For: Cathaoirleach of the Seanad; Deputy Tierney; Senators Bennett, Douglas, Jameson, O'Farrell and O'Hanlon.

Níl: Eamon de Valera agus Domhnall O Muirgheasa, Teachtaí.

Against: Deputies de Valera and Morrissey.

Do faisnéiseadh dá réir sin go rabhtas tar éis glaca leis an leasú.

The amendment was declared carried accordingly.

Bun-Cheist, mar do leasúidh, curtha; do dhin an C6-Choiste v6táil; Tá, 7; Níl, 2.

Main Question, as amended, put; the Joint Committee divided; For, 7; Against, 2.

Tá: Cathaoirleach an tSeanaid; Mícheál O Tighearnaigh, Teachta; Tomás Beineid, Séamas Dubhglas, Aindrias Mac Séamais, Seán O Fearghail agus Mícheál O hAnluain, Seana-dóiri.

For: Cathaoirleach of the Seanad; Deputy Tierney; Senators Bennett, Douglas, Jameson, O'Farrell and O'Hanlon.

Níl: Eamon de Valera agus Domhnall O Muirgheasa, Teachtaí.

Against: Deputies de Valera and Morrissey.

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4. Do cuireadh an Có-Choiste ar ath-ló ar 1 p.m. go dtí 3 p.m. Dé Máirt seo chughainn.

4. The Joint Committee adjourned at 1 p.m. until 3 p.m. Tuesday next.

Dé Máirt, 3adh Abrán, 1928.

Tuesday, 3rd April, 1928.

1. Chruinnigh an Có-Choiste ar 3 p.m.

2. *I láthair*: An Ceann Comhairle (i gCeannas), Cathaoirleach an tSeanaid; Eamon de Valera agus Mícheál O Tighearnaigh, Teachtaí; Tomás Beinéid, Séamas Dubhglas, Aindrias Mac Séamais, Seán O Fearghail agus Mícheál O hAnnuain, Seanadóirí.

3. AINMLIOST D'IARRTHOIRI.

Tairisgint déanta (*Eamon de Valera*):

"That the Joint Committee recommends that for the purpose of elections to the Seanad a panel of candidates be formed by the Dáil and Seanad, in proportions to be decided later."

Ceist curtha; do dhin an Có-Choiste vótáil; Tá, 2; Níl, 6.

Tá: Eamon de Valera agus Mícheál O Tighearnaigh, Teachtaí.

Níl: Cathaoirleach an tSeanaid; Tomás Beinéid, Séamas Dubhglas, Aindrias Mac Séamais, Seán O Fearghail agus Mícheál O hAnnuain, Seanadóirí.

Do faisnéiseadh dá réir sin go rabhthas tar éis diúltú don tairisgint.

Tairisgint eile déanta (*Cathaoirleach an tSeanaid*):

"That the Joint Committee recommends that for the purpose of elections to the Seanad a panel of candidates be formed by a Nominating College created for that purpose, subject to the right of the Dáil and Seanad to add nominations to the panel not exceeding a fixed maximum."

Ceist curtha; do dhin an Có-Choiste vótáil; Tá, 5, Níl, 3.

Tá: Cathaoirleach an tSeanaid; Tomás Beinéid, Séamas Dubhglas, Aindrias Mac Séamais agus Seán O Fearghail, Seanadóirí.

Níl: Eamon de Valera agus Mícheál O Tighearnaigh, Teachtaí; Mícheál O hAnnuain, Seanadóir.

Do faisnéiseadh dá réir sin go rabhthas tar éis glaca leis an dtairisgint.

4. Do cuireadh an Có-Choiste ar ath-ló ar 5.15 p.m. go dtí 11 a.m. Dé Céadaoin, 18adh Abrán.

1. The Joint Committee met at 3 p.m.

2. *Present*: The Ceann Comhairle (in the Chair), the Cathaoirleach of the Seanad; Deputies de Valera and Tierney; Senators Bennett, Douglas, Jameson, O'Farrell and O'Hanlon.

3. PANEL OF CANDIDATES.

Motion made (*Deputy de Valera*):

"That the Joint Committee recommends that for the purpose of elections to the Seanad a panel of candidates be formed by the Dáil and Seanad, in proportions to be decided later."

Question put; the Joint Committee divided; For, 2; Against, 6.

For: Deputies de Valera and Tierney.

Against: Cathaoirleach of the Seanad; Senators Bennett, Douglas, Jameson, O'Farrell and O'Hanlon.

The motion was declared negatived accordingly.

Another motion made (*Cathaoirleach of the Seanad*):

"That the Joint Committee recommends that for the purpose of elections to the Seanad a panel of candidates be formed by a Nominating College created for that purpose, subject to the right of the Dáil and Seanad to add nominations to the panel not exceeding a fixed maximum."

Question put; the Joint Committee divided; For, 5; Against, 3.

For: Cathaoirleach of the Seanad; Senators Bennett, Douglas, Jameson and O'Farrell.

Against: Deputies de Valera and Tierney; Senator O'Hanlon.

The motion was declared carried accordingly.

4. The Joint Committee adjourned at 5.15 p.m. till 11 a.m. Wednesday, 18th April.

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Dé Céadaoin, 18adh Abrán, 1928.

Wednesday, 18th April, 1928.

1. Chruinnigh an Có-Choiste ar 11 a.m.

2. *I láthair*: An Ceann Comhairle (i gCeannas), Cathaoirleach an tSeanaid; Eamon de Valera, Domhnall O Muirgheasa, Pádraig Ruithléis agus Mícheál O Tighearnaigh, Teachtaí; Tomás Beineid, Séamas Dubhglas; Aindrias Mac Séamais, Séan O Fearghail agus Mícheál O hAnluain, Seanadóirí.

3. AINMLIOST D'IARRTHOIRI.

Tairisgint déanta (*Cathaoirleach an tSeanaid*):

"That the Joint Committee recommends that the Nominating College to nominate candidates on the panel of candidates be composed of representatives of associations, organisations or bodies representing the following interests, viz., Agriculture, Labour, Education, Commerce and National Development."

Ceist curtha; do dhin an Có-Choiste vótáil; Tá, 6; Níl, 4.

Tá: Cathaoirleach an tSeanaid; Tomás Beineid, Séamas Dubhglas, Aindrias Mac Séamais, Séan O Fearghail agus Mícheál O hAnluain, Seanadóirí.

Níl: Eamon de Valera, Domhnall O Muirgheasa, Pádraig Ruithléis agus Mícheál O Tighearnaigh, Teachtaí.

Do faisnéiseadh dá réir sin go rabhthas tar éis glaca leis an dtairisgint.

4. Do cuireadh an Có-Choiste ar ath-ló ar 1.5 p.m. go dtí 11 a.m. Dé Céadaoin seo chughainn.

1. The Joint Committee met at 11 a.m.

2. *Present*: The Ceann Comhairle (in the Chair), the Cathaoirleach of the Seanad; Deputies de Valera, Morrissey, Ruttledge and Tierney; Senators Bennett, Douglas, Jameson, O'Farrell and O'Hanlon.

3. PANEL OF CANDIDATES.

Motion made (*Cathaoirleach of the Seanad*):

Question put; the Joint Committee divided; For, 6; Against, 4.

For: Cathaoirleach of the Seanad; Senators Bennett, Douglas, Jameson, O'Farrell and O'Hanlon.

Against: Deputies de Valera, Morrissey, Ruttledge and Tierney.

The motion was declared carried accordingly.

4. The Joint Committee adjourned at 1.5 p.m. till 11 a.m. Wednesday next.

Dé Céadaoin, 25adh Abrán, 1928.

Wednesday, 25th April, 1928.

1. Chruinnigh an Có-Choiste ar 11 a.m.

2. *I láthair*: An Ceann Comhairle (i gCeannas), Cathaoirleach an tSeanaid; Eamon de Valera, Domhnall O Muirgheasa agus Mícheál O Tighearnaigh, Teachtaí; Tomás Beineid, Séamas Dubhglas, Aindrias Mac Séamais, Séan O Fearghail agus Mícheál O hAnluain, Seanadóirí.

3. AINMLIOST D'IARRTHOIRI.

Tairisgint déanta (*Séamas Dubhglas*):

"That in view of the difficulty in finding agreement in the Joint Committee as to a satisfactory method of constituting a Nominating College to nominate persons for inclusion in the panel of candidates

1. The Joint Committee met at 11 a.m.

2. *Present*: The Ceann Comhairle (in the Chair), the Cathaoirleach of the Seanad; Deputies de Valera, Morrissey and Tierney; Senators Bennett, Douglas, Jameson, O'Farrell and O'Hanlon.

3. PANEL OF CANDIDATES.

Motion made (*Senator Douglas*):

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for an election of members of the Seanad, the Joint Committee does not proceed to consider further the details of a scheme but recommends that the present provisions of the Constitution as to the formation of the panel be deleted and a provision be inserted therein that the panel shall be formed in manner to be determined by ordinary legislation."

Ceist curtha, agus aontuithe.

Question put, and agreed to.

4. SEANADOIRI A BHEIDH AG DUL AS OIFIG AGUS AN AINMLIOST.

4. OUTGOING SENATORS AND THE PANEL.

Tairisgint déanta (*Eamon de Valera*):

Motion made (*Deputy de Valera*):

"That, in the event of the Seanad having the right to nominate candidates to the panel, the Joint Committee recommends that outgoing Senators, as such, should not have the right to be included in any panel of candidates which may be formed for an election of members of the Seanad."

Ceist curtha; do dhin an Có-Choiste vótáil; Tá, 5; Níl, 4.

Question put: the Joint Committee divided; For, 5; Against, 4.

Tá: Eamon de Valera agus Domhnall O Muirgheasa, Teachtaí; Tomás Beinéid, Seán O Fearghail agus Mícheál O hAnluain, Seanadóirí.

For: Deputies de Valera and Morrissey; Senators Bennett, O'Farrell and O'Hanlon.

Níl: Cathaoirleach an tSeanaid; Mícheál O Tighearnaigh, Teachta; Séamas Dubhglas agus Aindrias Mac Séamais, Seanadóirí.

Against: Cathaoirleach of the Seanad; Deputy Tierney; Senators Douglas and Jameson.

Do faisnéiseadh dá réir sin go rabhtas tar éis glaca leis an dtairisgint.

The motion was declared carried accordingly.

5. LION BALL AN TSEANAID.

5. NUMBER OF MEMBERS OF THE SEANAD.

Tairisgint déanta (*Cathaoirleach an tSeanaid*):

Motion made (*Cathaoirleach of the Seanad*):

"That the Joint Committee recommends that the number of members of the Seanad be as at present."

Leasú tairgthe (*Eamon de Valera*):

Amendment proposed (*Deputy de Valera*):

"To delete the words 'as at present' and substitute therefor the words 'reduced to thirty-five.'"

Ceist curtha agus *diúlta*—Eamon de Valera gan aontú leis sin.

Question put, and *negatived*—Deputy de Valera dissenting.

Bun-Cheist curtha, agus aontuithe—Eamon de Valera gan aontú leis sin.

Main Question put, and agreed to—Deputy de Valera dissenting.

6. AOIS MHNIMUM CHUN DUINE DO BHEITH IONTOGHTHA MAR BHALL DEN TSEANAD.

6. MINIMUM AGE FOR ELIGIBILITY FOR MEMBERSHIP OF SEANAD.

Tairisgint déanta (*Cathaoirleach an tSeanaid*):

Motion made (*Cathaoirleach of the Seanad*):

"That the Joint Committee recommends that the minimum age for eligibility for membership of the Seanad be as at present."

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- Leasú tairgthe (*Eamon de Valera*): Amendment proposed (*Deputy de Valera*):
- “ To delete the words ‘ as at present ’ and substitute therefor the words ‘ thirty years.’ ”
- Ceist curtha; do dhin an C6-Choiste v6t6il; T6, 6; N6l, 3. Question put; the Joint Committee divided; For, 6; Against, 3.
- T6: Eamon de Valera, Domhnall O Muirgheasa agus M6che6al O Tighearnaigh, Teachta6; S6amas Dubhglas, S6an O Fearghail agus M6che6al O hAnnluain, Seanad6ir6. For: Deputies de Valera, Morrissey and Tierney; Senators Douglas, O’Farrell and O’Hanlon.
- N6l: Cathaoirleach an tSeanaid; Tom6s Bein6id agus Aindrias Mac S6amais, Seanad6ir6. Against: Cathaoirleach of the Seanad; Senators Bennett and Jameson.
- Do faisn6iseadh d6 r6ir sin go rabhthas tar 6is glaca leis an leasú. The amendment was declared carried accordingly.
- Bun-Cheist, mar do leasu6fodh, curtha, agus aontuithe. Main Question, as amended, put, and agreed to.
7. TEARMA OIFIGE SEANAD6IRI. 7. TERM OF OFFICE OF SENATORS.
- Tairisgint d6anta (*Tom6s Bein6id*): Motion made (*Senator Bennett*):
- “ That the Joint Committee recommends that the term of office of a member of the Seanad be nine years.”
- Leasú tairgthe (*Eamon de Valera*): Amendment proposed (*Deputy de Valera*):
- “ To delete the word ‘ nine ’ and substitute therefor the word ‘ six.’ ”
- Ceist curtha, agus di6lta—Eamon de Valera gan aontú leis sin. Question put, and *negatived*—Deputy de Valera dissenting.
- Bun-Cheist curtha, agus aontuithe. Main Question put, and agreed to—Deputy de Valera dissenting.
- Eamon de Valera gan aontú leis sin.
8. MINICIOCHT TOGHACHAN. 8. FREQUENCY OF ELECTIONS.
- Tairisgint d6anta (*S6amas Dubhglas*): Motion made (*Senator Douglas*):
- “ That the Joint Committee recommends that one-third of the members of the Seanad be elected every three years.”
- Ceist curtha, agus aontuithe—Eamon de Valera gan aontú leis sin. Question put, and agreed to—Deputy de Valera dissenting.
9. Do cuireadh an C6-Choiste ar ath-l6 ar 1.15 p.m. go dt6 11 a.m. D6 C6adaoin seo chughainn. 9. The Joint Committee adjourned at 1.15 p.m. till 11 a.m. Wednesday next.

D6 C6adaoin, 2adh Bealtaine, 1928.

Wednesday, 2nd May, 1928.

1. Chruinnigh an C6-Choiste ar 11 a.m. 1. The Joint Committee met at 11 a.m.
2. *I l6thair*: An Ceann Comhairle (i gCeannas), Cathaoirleach an tSeanaid: Eamon de Valera, Domhnall O Muirgheasa, Gear6id O S6uilleabh6ain, P6draig Ruithl6is agus M6che6al 2. *Present*: The Ceann Comhairle (in the Chair), the Cathaoirleach of the Seanad; Deputies de Valera, Morrissey, G. O’Sullivan, Ruttledge and Tierney; Senators Bennett,

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O Tighearnaigh, Teachtaí; Tomás Beinéid, Séamas Dubhglas, Aindrias MacSeamais, Seán O Fearghail agus Mícheál O hAnluain, Seanadóiri.

Douglas, Jameson, O'Farrell and O'Hanlon.

3. FOTH-FHOLUNTAISI SA tSEANAD DO LIONA.

3. FILLING OF CASUAL VACANCIES IN THE SEANAD.

Tairisgint déanta (*Cathaoirleach an tSeanaid*):

Motion made (*Cathaoirleach of the Seanad*):

"That the Joint Committee recommends that no change be made in the provisions of the Constitution relating to the method of filling a casual vacancy in the Seanad."

Leasú tairgthe (*Eamon de Valera*):

Amendment proposed (*Deputy de Valera*):

"To delete all words after the word 'recommends' and substitute therefor the words 'that a casual vacancy in the Seanad be filled by election by the original electing body.'"

Ceist curtha; do dhin an C6-Choiste v6t6il; T6, 6; Nil, 5.

Question put; the Joint Committee divided; For, 6; Against, 5.

T6: Eamon de Valera, Domhnall O Muirgheasa, Gear6id O S6ill-leabh6in, P6draig Ruithl6is agus Mícheál O Tighearnaigh, Teachtaí; Seán O Fearghail, Seanadóir.

For: Deputies de Valera, Morrissey, G. O'Sullivan, Ruttledge and Tierney; Senator O'Farrell.

Níl: Cathaoirleach an tSeanaid; Tomás Beinéid, Séamas Dubhglas, Aindrias Mac Seamais agus Mícheál O hAnluain, Seanadóiri.

Against: Cathaoirleach of the Seanad; Senators Bennett, Douglas, Jameson and O'Hanlon.

Do faisnéiseadh dá réir sin go rabhthas tar éis glaca an leasú.

The amendment was declared carried accordingly.

Bun-Cheist, mar do leasu6idh, curtha; do faisnéiseadh i bheith rithte.

Main Question, as amended, put, and declared carried.

4. TEARMA OIFIGE BALL A TOGHFAR CHUN FOTH-FHOLUNTAISI.

4. TERM OF OFFICE OF MEMBERS ELECTED TO FILL CASUAL VACANCIES.

Tairisgint déanta (*Séamas Dubhglas*):

Motion made (*Senator Douglas*):

"That the Joint Committee recommends that the term of office of the person elected to fill a casual vacancy in the Seanad be the unexpired residue of the term of office of the person whose place has been vacated."

Leasú tairgthe (*Eamon de Valera*):

Amendment proposed (*Deputy de Valera*):

"To delete all words after the word 'recommends' and substitute therefor the words 'that the person elected to fill a casual vacancy hold office until the next ordinary election to the Seanad.'"

Ceist curtha; do dhin an C6-Choiste v6t6il; T6, 7; Nil, 4.

Question put; the Joint Committee divided; For, 7; Against, 4.

T6: Cathaoirleach an tSeanaid; Eamon de Valera, Domhnall O Muirgheasa agus P6draig Ruithl6is. Teachtaí; Tomás Beinéid, Seán O Fearghail agus Mícheál O hAnluain, Seanadóiri.

For: Cathaoirleach of the Seanad; Deputies de Valera, Morrissey and Ruttledge; Senators Bennett, O'Farrell and O'Hanlon.

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Mícheál O Tighearnaigh, Teachtaí; Séamas Dubhglas agus Aindrias Mac Séamais, Seana-dóiri.

and Tierney; Senators Douglas and Jameson.

Do faisnéiseadh dá réir sin go tabhthas tar éis glaca leis an leasú.

The amendment was declared carried accordingly.

Bun-Cheist, mar do leasúfodh, curtha; do faisnéiseadh i bheith rithite.

Main Question, as amended, put, and declared carried.

5. SEANADOIRI A BHEIDH AG DUL AS OIFIG AGUS TOGHACHAN CHUN AN tSEANAID.

5. OUTGOING SENATORS AND ELECTION TO SEANAD.

Tairisgint déanta (*Eamon de Valera*):

Motion made (*Deputy de Valera*):

“ That the Joint Committee recommends as a proviso to their recommendation that the members of the Seanad be elected by the members of the Dáil and Seanad voting together on principles of Proportional Representation, that outgoing members of the Seanad be not entitled to vote at such election.”

Ceist curtha, agus *diúlta*—Eamon de Valera agus Pádraig Ruithléis gan aontú leis sin.

Question put, and *negatived*—Deputies de Valera and Rutledge dissenting.

6. Do cuireadh an C6-Choiste ar ath-ló ar 12.30 p.m. go dtí 3 p.m. Dé Máirt seo chughainn.

6. The Joint Committee adjourned at 12.30 p.m. till 3 p.m. Tuesday next.

Dé Máirt, 8adh Bealtaine, 1928.

Tuesday, 8th May, 1928.

1. Chruinnigh an C6-Choiste ar 3 p.m.

1. The Joint Committee met at 3 p.m.

2. *I lúthair*: An Ceann Comhairle (i gCeannas); Eamon de Valera agus Domhnall O Muircheasa, Teachtaí; Tomás Beineid, Séamas Dubhglas, Aindrias Mac Séamais, Séan O Fearghail agus Mícheál O hAnnluain, Seanadóiri.

2. *Present*: The Ceann Comhairle (in the Chair); Deputies de Valera and Morrissey; Senators Bennett, Douglas, Jameson, O'Farrell and O'Hanlon.

3. Do chuaidh an C6-Choiste i gcomhairle.

3. The Joint Committee deliberated.

4. Do cuireadh an C6-Choiste ar ath-ló ar 5.40 p.m. go dtí 11 a.m. amáireach.

4. The Joint Committee adjourned at 5.40 p.m. till 11 a.m. to-morrow.

Dé Céadaoin, 9adh Bealtaine, 1928.

Wednesday, 9th May, 1928.

1. Chruinnigh an C6-Choiste ar 11 a.m.

1. The Joint Committee met at 11 a.m.

2. *I lúthair*: An Ceann Comhairle (i gCeannas), Cathaoirleach an tSeanaid; Eamon de Valera, Domhnall O Muircheasa agus Mícheál O Tighearnaigh, Teachtaí; Tomás Beineid, Séamas Dubhglas, Séan O Fearghail, Aindrias Mac Séamais agus Mícheál O hAnnluain, Seana-dóiri.

2. *Present*: The Ceann Comhairle (in the Chair), the Cathaoirleach of the Seanad; Deputies de Valera, Morrissey and Tierney; Senators Bennett, Douglas, O'Farrell, Jameson and O'Hanlon.

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3. COMHACHTA AN tSEANAD.

3. POWERS OF THE SEANAD.

Tairisgint déanta (*Séamas Dubhglas*):

Motion made (*Senator Douglas*):

“ That the Joint Committee recommends that Article 38 of the Constitution be amended to the effect that:—

(a) If a Bill (not being a Money Bill) initiated in and passed by the Dáil is rejected by the Seanad or is passed by the Seanad with amendments to which the Dáil does not agree such Bill shall be suspended. If after the prescribed period the Bill, in the form in which it was last passed by the Dáil and rejected by the Seanad (subject to any changes certified by the Chairman of Dáil Eireann to be necessary by reason of lapse of time), is again sent by the Dáil to the Seanad and the Seanad within two calendar months thereafter fails to pass the Bill either without amendment or with such amendments as the Dáil shall agree to, such Bill shall, on resolution of the Dáil, be deemed to be passed by both Houses;

(b) The prescribed period shall commence on the day on which the said Bill is first sent to the Seanad and shall end at the expiration of two calendar years from that day unless within the said period a dissolution of the Oireachtas takes place, in which latter event the period shall end on the day of the reassembly of the Oireachtas following such dissolution.”

Leasú tairgthe (*Eamon de Valera*): Amendment proposed (*Deputy de Valera*):

“ To delete in paragraph (b) the words ‘ two calendar years ’ and substitute therefor the words ‘ eighteen calendar months.’ ”

Ceist curtha, agus diúlta—Eamon de Valera gan aontú leis sin.

Question put, and *negatived*—*Deputy de Valera* dissenting.

Leasú tairgthe (*Cathaoirleach an tSeanaid*):

Amendment proposed (*Cathaoirleach of the Seanad*):

“ To delete in paragraph (b) the words ‘ two calendar years ’ and substitute therefor the words ‘ eighteen calendar months.’ ”

Ceist curtha, agus aontuithe.

Question put, and *agreed to*.

Tairisgint, mar do leasúíodh, aontuithe—Eamon de Valera gan aontú leis sin.

Motion, as amended, *agreed to*—*Deputy de Valera* dissenting.

Tairisgint déanta (*Séamas Dubhglas*):

Motion made (*Senator Douglas*):

“ That the Joint Committee recommends, if the foregoing recommendation of the Joint Committee with respect to Article 38 of the Constitution be accepted, that Article 47 of the Constitution be amended so as to remove from the Seanad the power to demand a referendum save in the case of a Bill to amend the Constitution.”

Leasú tairgthe (*Eamon de Valera*):

Amendment proposed (*Deputy de Valera*):

“ To delete the words ‘ save in the case of a Bill to amend the Constitution.’ ”

Ceist curtha, agus diúlta—Eamon de Valera gan aontú leis sin.

Question put, and *negatived*—*Deputy de Valera* dissenting.

Bun-Cheist curtha, agus aontuithe—Eamon de Valera gan aontú leis sin.

Main Question put, and *agreed to*—*Deputy de Valera* dissenting.

Tairisgint déanta (*Séamas Dubhglas*):

Motion made (*Senator Douglas*):

“ That the Joint Committee recommends that Article 39 of the

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Constitution be amended to provide that a Bill initiated in and passed by the Seanad which has been amended by the Dáil shall for the passage of the Bill into law be in the same position as if the Bill had been initiated in the Dáil and shall accordingly be subject to the provisions set out in the recommendation of the Joint Committee with reference to Article 38 of the Constitution."

Ceist curtha, agus aontuithe.

Question put, and agreed to.

Tairisgint déanta (*Séamas Dubhglas*):

Motion made (*Senator Douglas*):

"That the Joint Committee recommends the deletion of the words 'If rejected by Dáil Éireann it shall not be introduced again in the same session, but Dáil Éireann may reconsider it on its own motion' being the last sentence of Article 39 of the Constitution."

Ceist curtha, agus aontuithe.

Question put, and agreed to.

Tairisgint déanta (*Séamas Dubhglas*):

Motion made (*Senator Douglas*):

"That the Joint Committee recommends that Article 35 of the Constitution be amended to the effect that if within seven days after any Bill has been certified by the Chairman of the Dáil to be a Money Bill or after a Bill so certified has been passed by the Dáil, whichever shall last happen, two-fifths of the members of either House by notice in writing addressed to the Chairman of the House of which they are members so require, or a majority of the members of the Seanad present and voting at a sitting of the Seanad at which not less than thirty members are present so resolve, the question whether the Bill is or is not a Money Bill shall be referred to a Committee of Privileges consisting of three members elected by each House with a Chairman who shall be the senior judge of the Supreme Court able and willing to act, and who, in the case of an equality of votes, but not otherwise, shall be entitled to vote. The decision of the Committee on the question shall be final and conclusive."

Ceist curtha, agus aontuithe.

Question put, and agreed to.

Tairisgint déanta (*Séamas Dubhglas*):

Motion made (*Senator Douglas*):

"That the present disqualification of members of the Seanad for membership of the Executive Council be removed."

Ceist curtha: do dhin an C6-Choiste vótáil; Tá, 5; Níl, 2.

Question put: the Joint Committee divided: For, 5; Against, 2.

Tá: Cathaoirleach an tSeanaid; Mícheál O Tighearnaigh, Teachta; Tomás Beinéid, Séamas Dubhglas agus Seán O Fearghail, Seanadóirí.

For: Cathaoirleach of the Seanad; Deputy Tierney; Senators Bennett, Douglas and O'Farrell.

Níl: Eamon de Valera agus Domhnall O Muirgheasa, Teachtaí.

Against: Deputies de Valera and Morrissey.

4. Do cuireadh an C6-Choiste ar ath-l6 ar 1.5 p.m. go dtí 11 a.m. Dé Céadaoin seo chughainn.

4. The Joint Committee adjourned at 1.5 until 11 a.m. Wednesday next.

Dé Céadaoin, 16adh Bealtaine, 1928.
Wednesday, 16th May, 1928.

1. Chruinigh an C6-Choiste ar 11 a.m.

1. The Joint Committee met at 11 a.m.

2. I lithair: An Ceann Comhairle (i gCeannas), Cathaoirleach an tSean-

2. Present: The Ceann Comhairle (in the Chair), the Cathaoirleach of

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aid: Eamon de Valera agus Mícheál O Tíghearnaigh. Teachtaí: Tomás Beineid, Séamas Dubhglas, Amrías Mac Séamaís, Seán O Fearghail agus Mícheál O hAnluain, Seana-dóirí.

the Seanad; Deputies de Valera and Tierney; Senators Bennett, Douglas, Jameson, O'Farrell and O'Hanlon.

3. Do léigheadh an Drecht-Tuarasgabháil a thug Cathaoirleach an Chó-Choiste isteach:—

3. The following Draft Report brought in by the Chairman of the Joint Committee was read:—

The Joint Committee set up to consider and report on the changes, if any, necessary in the constitution and powers of, and methods of election to Seanad Éireann has come to the following conclusions:—

Constitution of Seanad Éireann.

1. The Joint Committee recommends that the number of members of Seanad Éireann be as at present; that the minimum age for eligibility for membership of Seanad Éireann be thirty years; that the term of office of a member of Seanad Éireann be nine years and that one-third of the members be elected every three years.

Methods of Election to Seanad Éireann.

2. The Joint Committee is of opinion that election to Seanad Éireann by direct vote of the people is undesirable and recommends that the members of Seanad Éireann be elected by the members of Dáil Éireann and of Seanad Éireann voting together on principles of Proportional Representation.

3. The Joint Committee decided to recommend that for the purpose of elections to Seanad Éireann a panel of candidates be formed by a Nominating College created for that purpose, subject to the right of Dáil Éireann and Seanad Éireann to add nominations to the panel not exceeding a fixed maximum—the Nominating College to be composed of representatives of associations, organisations, or bodies representing the following interests, viz.: Agriculture, Labour, Education, Commerce and National Development. In view, however, of the difficulty in finding agreement in the Joint Committee as to a satisfactory method of constituting such a College the Joint Committee decided not to proceed to consider further the details of a scheme, but to recommend that the present provisions of the Constitution as to the formation of the panel be deleted and a provision be inserted therein that the panel shall be formed in a manner to be determined by ordinary legislation.

4. In the event of Seanad Éireann having the right to nominate candidates to the panel the Joint Committee recommends that outgoing Senators, as such, should not have the right to be included in any panel of candidates which may be formed for an election of members of Seanad Éireann.

5. The Joint Committee recommends that a casual vacancy in Seanad Éireann be filled by election by the original electing body and that the person elected to fill such vacancy hold office until the next ordinary election to Seanad Éireann.

Powers of Seanad Éireann.

6. The Joint Committee recommends, subject to the Recommendation in the next following paragraph herein being accepted, that Article 47 of the Constitution be amended so as to remove from Seanad Éireann the power to demand a Referendum save in the case of a Bill to amend the Constitution.

7. The Joint Committee recommends that Article 38 of the Constitution be amended to the effect that:—

(a) if a Bill (not being a Money Bill) initiated in and passed by Dáil Éireann is rejected by Seanad Éireann or is

IMEACHTA AN CHO-CHOISTE.

passed by Seanad Éireann with amendments to which Dáil Éireann does not agree, such Bill shall be suspended. If, after the prescribed period, the Bill, in the form in which it was last passed by Dáil Éireann and rejected by Seanad Éireann (subject to any changes certified by the Chairman of Dáil Éireann to be necessary by reason of lapse of time), is again sent by Dáil Éireann to Seanad Éireann and Seanad Éireann within two calendar months thereafter fails to pass the Bill either without amendment or with such amendments as Dáil Éireann shall agree to, such Bill shall, on resolution of Dáil Éireann, be deemed to be passed by both Houses;

- (b) the prescribed period shall commence on the day on which the said Bill is first sent to Seanad Éireann and shall end at the expiration of eighteen calendar months from that day unless within the said period a dissolution of the Oireachtas takes place, in which latter event the period shall end on the day of the reassembly of the Oireachtas following such dissolution.

8. The Joint Committee recommends that Article 39 of the Constitution be amended to provide that a Bill initiated in and passed by Seanad Éireann which has been amended by Dáil Éireann shall, for the passage of the Bill into law, be in the same position as if the Bill had been initiated in Dáil Éireann and shall accordingly be subject to the provisions set out in the Recommendation in Paragraph 7 above. The Joint Committee further recommends the deletion of the words "If rejected by Dáil Éireann it shall not be introduced again in the same session, but Dáil Éireann may reconsider it on its own motion."

9. The Joint Committee recommends that Article 35 of the Constitution be amended to the effect that if within seven days after any Bill has been certified by the Chairman of Dáil Éireann to be a Money Bill or after a Bill so certified has been passed by Dáil Éireann, whichever shall last happen, two-fifths of the members of either House by notice in writing addressed to the Chairman of the House of which they are members so require, or a majority of the members of Seanad Éireann present and voting at a sitting of Seanad Éireann at which not less than thirty members are present so resolve, the question whether the Bill is or is not a Money Bill shall be referred, to a Committee of Privileges consisting of three members elected by each House with a Chairman who shall be the senior judge of the Supreme Court able and willing to act, and who, in the case of an equality of votes, but not otherwise, shall be entitled to vote. The decision of the Committee on the question shall be final and conclusive.

10. The Joint Committee recommends that the present disqualification of members of Seanad Éireann for membership of the Executive Council be removed.

The Joint Committee recognises that the foregoing Recommendations, if adopted, will necessitate provisions of a transitory character and consequential changes in the Constitution and in the law generally. The Joint Committee does not consider it necessary to make recommendations as to these matters.

Do thairg Micheál O Tighearnaigh:

Deputy Tierney moved:

"That the Chairman's Draft Report be read a second time."

Ceist curtha, agus aontuithe.

Question put, and agreed to.

Do breithníodh an Tuarasgabháil ina mír is 'na mír.

Report considered paragraph by paragraph.

(i) Míreanna 1, 2, 3 agus 4, aontuithe.

(i) Paragraphs 1, 2, 3 and 4, agreed to.

(ii) Mír 5,

(ii) Paragraph 5.

PROCEEDINGS OF THE JOINT COMMITTEE.

Leasú tairgthe (*Cathaoirleach an tSeanaid*):

Amendment proposed (*Cathaoirleach of the Seanad*):

“ In line 1, after the word ‘that’ to insert the words ‘if the Recommendation contained in Paragraph 2 of this Report be adopted,’ ”

Ceist curtha, agus aontuithe.

Question put, and agreed to.

Mír, mar do leasuíodh, aontuithe.

Paragraph, as amended, agreed to.

(iii) Míreanna 6 go dtí an deire, aontuithe.

(iii) Paragraphs 6 to the end, agreed to.

Do thairg Micheál O Tighearnaigh:

Deputy Tierney moved:

“ That the Chairman’s Draft Report, as amended, be the Report of the Joint Committee.”

Ceist curtha, agus aontuithe.

Question put, and agreed to.

Orduithe: A thuairisciú don dá Thigh dá réir sin.

Ordered: to report to both Houses accordingly.

4. Do críochnúodh obair an Chó-Choiste ar 11.55 a.m.

4. The Joint Committee concluded at 11.55 a.m.



REPORTS OF THE IMPERIAL ECONOMIC COMMITTEE

NINTH REPORT.

TOBACCO.

*Presented by the Secretary of State for Dominion Affairs
to Parliament by Command of His Majesty
July, 1928.*

X9(J452): 51.1-3. N25

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Sir Thomas Allen	
Mr. J. S. Wardlaw-Milne, M.P.	
Mr. F. N. Blundell, M.P.	
Mr. Harrison Watson	} Canada.
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The Hon. Sir James Parr, K.C.M.G., High Commissioner	} New Zealand.
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Sir Gilbert Grindle, K.C.M.G., C.B. ...	} Colonies and Protec- torates.
Mr. J. H. Batty	
Sir David Chadwick, C.S.I., C.I.E. ...	(<i>Secretary</i>).

Advisers to Representatives on the Committee :—

Southern Rhodesia :

Mr. H. W. Taylor.

India :

Mr. E. Gordon.

Mr. F. J. Du Toit for South Africa, Mr. B. F. Wright for Southern Rhodesia, acted during the temporary absence from the United Kingdom of Mr. J. H. Dimond and Sir Francis Newton respectively.

Note.—The expenses of the Committee in connection with the preparation of this Report amount to £520. In addition, the cost of printing and publishing the Report is £90 19s. 2d.

REPORT
ON THE
**METHODS OF PREPARING FOR MARKET AND
MARKETING WITHIN THE UNITED KINGDOM
OF TOBACCO PRODUCED WITHIN
THE EMPIRE.**

NINTH REPORT.—TOBACCO.

- To **THE RIGHT HONOURABLE STANLEY BALDWIN**,
Prime Minister and First Lord of the Treasury.
- To **THE RIGHT HONOURABLE W. L. MACKENZIE KING**,
C.M.G.,
Prime Minister of the Dominion of Canada.
- To **THE RIGHT HONOURABLE S. M. BRUCE**, M.C.,
Prime Minister of the Commonwealth of Australia.
- To **THE RIGHT HONOURABLE J. G. COATES**, M.C.,
Prime Minister of the Dominion of New Zealand.
- To **GENERAL THE HONOURABLE J. B. M. HERTZOG**,
Prime Minister of the Union of South Africa.
- To **WILLIAM T. COSGRAVE**, Esq.,
President of the Executive Council, Irish Free State.
- To **THE HONOURABLE W. S. MONROE**,
Prime Minister of Newfoundland.
- To **THE HONOURABLE H. U. MOFFATT**, C.M.G.,
Premier of Southern Rhodesia.
- To **THE RIGHT HONOURABLE THE EARL OF BIRKENHEAD**,
Secretary of State for India.
- To **THE RIGHT HONOURABLE L. C. M. S. AMERY**,
Secretary of State for Dominion Affairs and for the
Colonies.

TOBACCO REPORT.

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REPORT.

We, the Imperial Economic Committee, appointed by the Governments of the United Kingdom, the Dominions, India, and the Colonies and Protectorates, acting under our terms of reference published on the 6th March, 1925, beg leave to present to the Governments of the Empire this our ninth report—the Marketing and Preparing for Market of Tobacco.

I.—INTRODUCTION.

1. We have examined a number of witnesses representing producing, marketing and manufacturing interests; we have further had the advantage of consultation with experienced officials both of the United Kingdom and overseas Governments, and with men of scientific eminence. We thank all those who have appeared before us for their skilled assistance.

II.—WORLD PRODUCTION AND TRADE—EMPIRE SHARE.

2. In the last two decades there has been a rapid increase in the production and consumption of tobacco. For the years 1909 to 1913 the average annual world production of leaf, excluding India and China, was estimated at 2,304 million lbs.; for the years 1920 to 1922 this average was placed at 2,673 million lbs. and in 1926 it is computed that 3,415 million lbs. of tobacco leaf were harvested. Unfortunately equivalent figures for the earlier years are not available for India and China for which two countries the crop in 1926 was estimated at 1,485 million lbs. If this quantity be included the estimate of the total production of tobacco in the world in 1926 was 4,900 million lbs. The United States of America and the British Empire provided approximately half of this world total.

Increase in production and consumption of tobacco.

3. The chief producing countries in 1926 were:—

	Quantity in millions of lbs.	Percentage to total world production.																
United States of America ...	1,298	26.5																
<div style="display: flex; align-items: center;"> <div style="margin-right: 5px;">The British Empire.</div> <div style="border-left: 1px solid black; padding-left: 5px;"> <table style="border-collapse: collapse; margin: 0;"> <tr> <td style="padding: 2px 5px;">India ...</td> <td style="padding: 2px 5px;">1,000</td> <td rowspan="8" style="border-left: 1px solid black; padding-left: 5px; vertical-align: middle;">} 22.1</td> </tr> <tr> <td style="padding: 2px 5px;">Canada ...</td> <td style="padding: 2px 5px;">29</td> </tr> <tr> <td style="padding: 2px 5px;">Union of South Africa...</td> <td style="padding: 2px 5px;">19</td> </tr> <tr> <td style="padding: 2px 5px;">Southern Rhodesia...</td> <td style="padding: 2px 5px;">19</td> </tr> <tr> <td style="padding: 2px 5px;">Nyasaland ...</td> <td style="padding: 2px 5px;">11</td> </tr> <tr> <td style="padding: 2px 5px;">Northern Rhodesia...</td> <td style="padding: 2px 5px;">2</td> </tr> <tr> <td style="padding: 2px 5px;">Australia ...</td> <td style="padding: 2px 5px;">1.5</td> </tr> <tr> <td style="padding: 2px 5px;">Cyprus ...</td> <td style="padding: 2px 5px;">1.5</td> </tr> </table> </div> </div>	India ...	1,000	} 22.1	Canada ...	29	Union of South Africa...	19	Southern Rhodesia...	19	Nyasaland ...	11	Northern Rhodesia...	2	Australia ...	1.5	Cyprus ...	1.5	
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Australia ...	1.5																	
Cyprus ...	1.5																	

The chief producing countries.

	Quantity in millions of lbs.	Percentage to total world production.
China	485	9.9
Russia	386	7.9
The Balkans	341	7.0
The Dutch East Indies	240	4.9
Japan	132	2.8
Brazil	130	2.7
The West Indies	127	2.6
The Philippines	100	2.0
Italy	98	2.0
France	58	1.2
Hungary	57	1.2

Note.—The figures in this table are taken from various publications issued by the Departments of Commerce and Agriculture of the United States.

The remaining 7 per cent. was produced in a large number of countries scattered over the world, including many portions of the British Empire.

Position of
the Empire
in inter-
national
trade in
tobacco.

4. In the international trade in tobacco the Empire does not however, occupy such a prominent position as the quantity of its production would suggest. Some of the countries which are the largest producers of tobacco are also the largest consumers; this is especially true of India and China. Only somewhat over one-fourth of the world crop—1,240 million out of 4,600 million lbs. in 1925—entered international trade channels, the rest having been consumed in the countries of production. Over three-fourths of the total export surplus of the world in 1925 was provided by the United States (39 per cent. of the total), the Dutch East Indies and the Balkans (each 16 per cent.), and Brazil (6 per cent.). The contribution of the whole of the British Empire was only about 4 per cent.

America
the chief
competitor
of Empire
tobacco in
the United
Kingdom
market.

5. An interchange of tobacco takes place between many countries, but the strong current of international trade therein is towards Europe, which requires in addition to its own production, about three quarters of the surplus available from the other producing countries. The chief markets for tobacco exported from the Balkans, the Dutch East Indies and Brazil are on the Continent of Europe. American tobacco is sent all over the world, but in 1925 one-third of the total American export was consigned to the United Kingdom. The competition which Empire tobacco has to meet in the British market is almost entirely from American grown tobacco.

Magnitude
of United
Kingdom
manu-
facture.

6. In 1919 British manufacturers withdrew from bond 161,885,000 lbs. of tobacco and in 1927 they withdrew 166,980,000 lbs. Of these totals 1,546,000 lbs. were of Empire growth in 1919 and 22,793,000 lbs. in 1927.

III.—EFFECT OF PREFERENCE ON EMPIRE PRODUCTION.

7. When the Imperial Economic Committee was appointed it was agreed that recommendations affecting the policy of Customs preference should not be included in its mandate. In our previous reports we have respected this limitation of our reference and in the course of the present report it will be no part of our duty to advocate or oppose such preference in respect to tobacco. None the less it will be our duty to analyse the effects of the preference which has been granted on a considerable scale in the United Kingdom since that preference is now one of the dominating facts of the situation.

8. A preference on Empire tobacco was accorded in September, 1919, by the grant of a rebate of one-sixth of the full rate of import duty. At that time this represented an advantage of 1s. 4½d. per lb. In July, 1925, the rebate was increased by 50 per cent. to one-quarter of the full rate, or to 2s.0½d. a lb. and by the Finance Act of the following year the preference was stabilised at this figure for ten years from 1st July, 1926. This preference represents more than the value of the leaf itself in recent years.

Value of the preference in Empire tobacco.

9. In order to measure the effect of preference on production in different parts of the Empire it is necessary to have regard to the varying conditions of trade in the different countries. We have obtained figures from Government representatives and from trade estimates of the probable exportable surpluses of the crops resulting from plantings in 1927 in the chief export countries of the Empire. They are as follows :—

Exportable surpluses of 1927 crop of chief producing countries of the Empire.

	Local production.	Quantity of local production used locally.	Exportable Surplus.
	Figures in Millions of lbs.		
India	1,000	970	30
Canada	49	38	9
Union of South Africa	20½	11	9½
Nyasaland	8	—	8
Southern Rhodesia	16	—	16
Northern Rhodesia	2½	—	2½

It will be seen from these figures that these six countries fall into three groups;

- (i) India with a large home market and a surplus for export which, though large, is yet small in proportion to the crop;
- (ii) Canada and South Africa with considerable home markets and considerable surplus for export;
- (iii) Nyasaland and Southern and Northern Rhodesia dependent almost entirely on export for disposal of their crops.

Increase in production subsequent to introduction of preference.

10. In India, the proportion of exportable surplus to total crop grown is so small and the variation in the total crop owing to seasonal and other causes is so considerable that it would be difficult to ascribe any portion of the growth of production to the direct action of the preference given in the United Kingdom. In South Africa the expansion in production has been assisted by causes of a more local character, where a recent revision in the fiscal and co-operative laws has undoubtedly stimulated tobacco cultivation. It is therefore difficult to measure the portion of the increase in cultivation due to preference. In Canada, where the local market for leaf has expanded slowly and the import of leaf from America has increased, the growth in production is the result of the grant of preference. In some of the newer countries, on the other hand, notably Rhodesia and Nyasaland, it is obvious that the effect of preference on production has been direct and phenomenal. The following table shews the increase in production, subsequent to the introduction of preference in those countries of the Empire in which there has been special development:—

	Production in thousands of lbs. from crops sown in		Increase in thousands of lbs.	Crop of 1926 as compared with that of 1918.
	1918.	1926.		
Southern Rhodesia ...	620	19,175	18,555	30 times.
Northern Rhodesia ...	445	2,071	1,626	4½ "
Nyasaland ...	2,594	10,978	8,384	4½ "
Canada ...	14,232	28,824	14,591	Twice.
Union of South Africa	14,931	19,000	4,069	1½ times.

In Cyprus production has multiplied 23 times in the last six years, from 137,000 lbs. in 1921 to 3,584,000 lbs. (estimated) in 1927.

In Australia, although a vigorous campaign for extension and improvement has been initiated, the expansion of cultivation has not yet sufficed to meet local demands.

In British North Borneo, production is practically concentrated on cigar leaf tobacco and the consumption of cigars in the United Kingdom is relatively small. Samples of tobacco from New Zealand have reached London and also trial shipments of tobacco from Mauritius. Great efforts are being made in Mauritius to develop tobacco cultivation so as to provide the island with another commercial crop in addition to sugar.

Importance of tobacco-growing to certain Empire countries.

11. Already in certain of the newer countries of the Empire the cultivation of tobacco is becoming for the time being the mainstay of farming and therefore of settlement.

In Southern Rhodesia and Nyasaland the tobacco crop is of such importance, relatively to all other agricultural produce, that its fate each year has profound reactions on the general

prosperity of the country. In 1927 the total exports from Southern Rhodesia were valued at £6.1/3rd millions. Sixty per cent. of this total consisted of metals of which gold was the chief. Of the balance tobacco formed nearly half, practically equalling in value the total exports of all other agricultural produce and manufactures. In many countries the lure for minerals has blazed the track and started the first township, but wide permanent settlement has always waited on agricultural development. The agricultural development of Southern Rhodesia, and therefore its opening up and settlement, is bound up closely with the success or failure of its efforts in tobacco production. The speed at which such settlement can be effected is in close relation to the success attained by Rhodesia in producing tobacco acceptable to the British public and on its use by the British public. In Nyasaland the relative importance of tobacco is still greater. In 1927 tobacco represented over 80 per cent. in value of the total exports, and the firm establishment of a large and growing trade therein affords, at present, the chief hope for opening up that remote land.

12. One of the indirect results of the grant of preference may possibly prove to be of ultimate greater benefit to Empire countries than the immediate stimulus it has given to the increase of exports to British markets. We have received abundant evidence of the efforts being made in many and very widely scattered parts of the Empire to improve the quality of the tobacco produced so as to render it acceptable to the British public. In endeavouring to meet the needs of the British market—perhaps the most critical in the world—Empire producers are compelled to strive to produce tobaccos high in type and quality. Thus, when they succeed in obtaining a large share of the British market they should also command a trade with the non-British portions of the world. It must not be forgotten that the object of the present movement in Empire trade is not merely to increase the Inter-Imperial exchange of commodities but by stimulating the total production of goods of high quality at an economic price within the Empire to place the Empire as a whole in a more favourable position for trading with the remainder of the world.

Possibility
of ultimately
developing
world trade

13. Whether we consider the development of some of the youngest and very promising portions of the Empire or whether we consider the promotion of the trade of the Empire as a whole with foreign countries it is evident that in exercising his voluntary preference in favour of Empire tobacco, the British consumer can accentuate the effect of the fiscal preference. We are dealing with a commodity which though perhaps the most universal luxury is not a food. It has therefore been selected as specially appropriate for indirect taxation with the result that fiscal preference on a generous scale can be granted. The consumer is thus in the position of being able to add his voluntary preference to the State's fiscal preference, and by doing so can help, more powerfully and immediately than perhaps in the

"Voluntary
preference"
can
accentuate
benefits
of fiscal
preference.

case of any other commodity in wide use, to build up Empire trade and further the development of the Empire. In saying this we do not advocate that voluntary preference should be exercised in this, any more than in any other case, in favour of an inferior article. The whole trend of this report is to show the improvement that has been effected in Empire tobaccos and to demand further effort and greater efficiency from the producer.

14. These ultimate possibilities arrest attention. Their realisation demands that Empire producers should see ahead of them a regular and expanding market for their produce. Therefore, before considering in any detail the various efforts to produce tobacco within the Empire, it is advisable to measure the potentiality of the United Kingdom as a market for tobacco, and to consider its characteristics and requirements and the trade channels through which it is supplied.

IV.—THE DEMAND IN THE UNITED KINGDOM FOR TOBACCO.

A.—IMPORTS.

Fluctuations between 1919 and 1927.

15. The statement in Appendix I shows in detail the imports of unmanufactured tobacco leaf into the United Kingdom for each year since the introduction of preference, and the diagram in Appendix V shows the course of total imports, and of imports from the Empire, from the United States, and from other foreign countries. From 1919 to 1921 imports were abnormally heavy to replace stocks depleted during the War years. There was a big fall in imports in 1922 and 1923 followed by a steady annual growth until 1926. But in 1927 there was a sudden increase, with the result that at the end of 1927 unsold stocks on the market were higher than usual.

Re-exports.

16. In 1927 total imports were 222 million lbs., nearly the same as in 1921, when they were 228 millions. Most of the imports of leaf tobacco are retained in the United Kingdom for manufacture. Re-exports reached their maximum in 1924 at 19½ million lbs., since which date they have steadily declined. In 1927 they were 9,725,000 lbs., or 4.4 per cent. of the imports of that year. Of the re-exports, the Irish Free State takes most, some 7,500,000 lbs. a year, for purposes of local manufacture.

Imports an incomplete guide to demand for manufacture.

17. Imports alone afford an incomplete guide to the British manufacturers' demand for tobacco or to the consumption of tobacco in the United Kingdom in any year. It is a common practice to leave tobacco in stock for about two years, to enable it to mature, and by blending the growths of various years, to facilitate the production of a standardised article. This

Note.—It is clear from the figures in Appendix I that imports in 1921, and again in 1927, were much in excess of those in the intervening years, and also in excess of annual withdrawals from bond. (Appendix IV).

practice is especially followed with American leaf intended for cigarettes. On account, moreover, of the heavy customs duties, manufacturers only withdraw stocks from bond as they are required.

18. The statement in Appendix IV has been supplied to us by His Majesty's Department of Customs and Excise in Great Britain. It gives three groups of tables for each of the years 1919 to 1927 for Empire and foreign leaf respectively. It shows the quantities of leaf on which duties were paid, in other words, the quantities taken from Customs Bond for manufacture in the United Kingdom. It also shows the quantities of leaf on which drawbacks of duty were paid, either on the export of the manufactured article or on waste in manufacture. The third table, which is arrived at by deducting the figures of drawbacks from those of withdrawals, shows the net quantities "retained for Home consumption"—that is, the quantities of leaf tobacco manufactured into smokable products for consumption in the United Kingdom. Thus, the first indicates the demand to be satisfied by the producer and the third shows the quantities which pass into consumption in the United Kingdom. We epitomise these two tables in the figures below:—

Withdrawal
from bond.

Year.	Quantities of leaf tobacco removed from Bond.	Quantities manufactured for consumption in the United Kingdom.
	Figures in thousands of lbs.	
1919	161,885	142,826
1920	155,073	137,698
1921	152,215	138,895
1922	146,927	132,677
1923	145,084	128,257
1924	145,892	127,901
1925	153,268	132,591
1926	157,864	134,621
1927	166,960	137,288

19. In order to estimate the British manufacturers' total demand for leaf tobacco in 1927, and therefore the demand which has to be satisfied by producers, the quantity used in the manufacture in bond of exportable finished products must be added to this 166,960,000 lbs. of leaf removed for manufacture out of bond. This amounted to some 13 million lbs., bringing the total amount of leaf used by British manufacturers in 1927 up to some 180 million lbs., of which 152 millions (137 millions of cleaned leaf plus 11 per cent. thereon for stalks and offals—

Total
amount of
leaf used by
British ma
ufacturers
in 1927.

Note.—A relatively small quantity of "Cavendish"—129 thousand lbs. in 1927 in which three thousand lbs. of Empire leaf were used—is still consumed in the United Kingdom. As "Cavendish" can only be manufactured in bond, the amount of leaf used in its manufacture is not included in the table given above. The total is, however, so relatively small, as to make no material difference to the above figures as indicating the quantities of leaf manufactured each year in the United Kingdom for local consumption.

Appendix IV) was required for the manufacture of smokable products for consumption in the United Kingdom.

B.—CONSUMPTION.

consumption in the United Kingdom and in other countries.

20. The quantity of leaf manufactured in the United Kingdom in 1927 into smokable products for local consumption has thus been estimated at 152 million lbs. This, added to the quantity of imported cigars and cigarettes, gives an annual average consumption of 3.4 lbs. per caput. In 1914 the per caput consumption was 2.4 lbs., indicating a recent rapid increase in consumption due undoubtedly to the extension of the cigarette habit and to smoking on the part of women. Strictly comparable statistics for other countries have been difficult to obtain. The following estimates have been taken from United States official publications.

1926.

Consumption in lbs. per caput.

Belgium	6.6	Germany	4.0
United States	6.02	New Zealand	3.1

From these figures it would appear that the consumption per caput in the United Kingdom is still below the level of some other countries, but it must not be assumed that the increase in the future will be as rapid as it has been in the immediate past, for the adoption of the smoking habit by women on a great scale has been a part of a social revolution, which has occurred in the past two decades, rather than of a steady growth, and henceforth there is not room for a comparable addition to the ranks of smokers.

V.—INCREASING USE OF EMPIRE TOBACCO IN THE UNITED KINGDOM:

extent to which the Empire supplies the United Kingdom market.

21. Thus we have arrived at an estimate of the potentiality of the British market. We now turn to consider the extent to which the Empire is already supplying the market in the United Kingdom. The increasing proportion of Empire supplies in the imports of leaf tobacco into the United Kingdom has been noticeable, and is chiefly due to larger imports from Nyasaland, Rhodesia, India and Canada. The increasing importance of Empire supplies is shown by the following table:—

Percentage of leaf tobacco imported into the United Kingdom.

	From		
	The Empire.	The U.S.A.	Other Foreign Countries.
1921	3.3	94.3	2.4
1922	6.8	90.2	3.0
1923	7.5	89.5	3.0
1924	10.6	86.0	3.4
1925	10.0	86.1	3.9
1926	15.1	81.9	3.0
1927	18.4	79.9	1.7

This table shows, incidentally, the strong position of American grown tobacco in the British market and the small extent to which Turkish, Sumatran, Brazilian and other foreign tobaccos are used:

22. Whereas the Empire only supplied $7\frac{1}{2}$ million out of the 228 million lbs. imported in 1921, it supplied 41 million to the 1927 total of 222 million lbs. Further, seven out of the seven and a-half million lbs. of Empire tobacco imported in 1921 were drawn from Nyasaland, India and British North Borneo, whereas in 1927, although these three Empire countries had raised their contribution to 24 million lbs., the imports from Rhodesia and Canada had grown from negligible quantities to 17 million lbs. (Appendix I). Re-exports of Empire tobacco are small. The largest quantity re-exported in 1927 was some 89,000 lbs. of British North Borneo tobacco (Appendix II).

23. In paragraph 18 we gave a table showing the total quantities of leaf removed each year from bond by British manufacturers and the quantities of cleaned leaf used in the manufacture of smokable products for consumption in the United Kingdom. The portions which came from the Empire are as follows:—

Year.	Quantity of Empire leaf removed from bond.	Quantity manufactured for consumption in the United Kingdom.	Percentage to total.
	Thousands of lbs.	Thousands of lbs.	
1919—September 1st to December 31st.	1,546	1,494	2.85
1920	4,757	4,204	3.05
1921	6,403	5,921	4.26
1922	8,412	7,856	5.92
1923	9,789	8,912	6.95
1924	11,905	10,746	8.40
1925	14,581	13,188	9.95
1926	19,846	17,881	13.28
1927	22,793	20,306	14.90

Preference was first granted with effect from September 1, 1919. Before April 1, 1923, the figures relate to the British Isles, since that date only to Great Britain and Northern Ireland.

24. This table shows that since the grant of preference the consumption of Empire-grown tobacco in the United Kingdom has increased steadily year by year, and, when read with that in paragraph 18, more rapidly than the increase in the total consumption of tobacco. Between 1920 and 1924 the consumption of Empire tobacco expanded at a rate of 1,650,000 lbs. a year, and between 1924 and 1927 at a rate of 3,200,000 lbs. a year. This acceleration in the rate of increase would appear to indicate that the quality of Empire tobacco is approaching

Sources of Empire supplies.

Quantities of Empire leaf removed from bond and manufactured in the United Kingdom.

Steady growth of consumption of Empire tobacco since the grant of preference.

more nearly to the standards required by the British market. We believe that, given, on the side of the producers increased experience in production, strict attention to the quality of the crop and the requirements of the British market, and, given, on the side of the manufacturers and British public, cordial support for Empire products a still greater rate of increase could be established. The tables, in paragraphs 21 and 23, however, show that Empire tobaccos are being imported more rapidly than they are passing into consumption. This points to an accumulation of stocks of Empire tobacco. These stocks must be analysed into pipe and cigarette tobaccos to see what is the true position.

VI.—THE ADVANCE OF THE CIGARETTE IN GENERAL FAVOUR.

Change from pipes to cigarettes in the United Kingdom.

25. A striking feature in the United Kingdom has been the change in recent years from pipes to cigarettes. No official statistics are available to show from year to year the quantities of leaf tobacco which are manufactured into cigarettes, into pipe or chewing tobacco, and into cigars. The change in a period of years is, however, brought out in the figures of the Census of Production recently published by the Board of Trade. They are :—

	Manufacture.	Imports cleared for local consumption.	Exports.	Consumption.
	lbs.	lbs.	lbs.	lbs.
Cigarettes :				
1907... ..	29,926,000	293,000	6,453,000	23,766,000
1924... ..	92,198,000	78,000	14,818,000	77,458,000
Pipe Tobaccos :				
1907... ..	73,394,000	377,000	2,699,000	71,072,000
1924... ..	55,530,000	274,000	3,181,000	52,623,000
Cigars :				
1907... ..	3,730,000	1,429,000	18,000	5,144,000
1924... ..	1,434,000	601,000	22,000	2,023,000

Note.—All 1907 figures relate to Great Britain and Ireland ; 1924 figures of manufacture to Great Britain, and those of imports and exports to Great Britain and Northern Ireland.

PERCENTAGE OF TOTAL CONSUMPTION.

	1907.	1924.
Cigarettes	23.8	58.5
Pipe Tobacco	71.1	40.0
Cigars	5.1	1.5

Fall in consumption of cigars.

26. The fall in the consumption of cigars is striking. The cigar trade, however, presents special features and we therefore postpone its consideration to a later portion of our report.

27. The comparison in the table in paragraph 25 is between the years 1907 and 1924 and it shows that in the interval the United Kingdom may be considered to have changed from a pipe-smoking to a cigarette-smoking country. The evidence we have received from trade sources is to the effect that the trend to cigarette smoking has continued since 1924 and some witnesses considered that pipe tobaccos now account for only one-quarter of the consumption in the United Kingdom. It is, we think, probable that pipe tobacco does not now form more than 35 per cent. of the total tobacco consumption of the United Kingdom.

The change occurred between 1907 and 1924.

28. The advance of the cigarette in popular favour in recent years is not confined to the United Kingdom. Throughout Europe consumption now inclines towards cigarettes and the milder varieties of pipe tobaccos. Even in Germany, where pipe tobacco still predominates, a marked increase in the consumption of cigarettes has taken place. In the United States, pipe and chewing tobacco still is the greater part of the consumption but the proportion of cigarettes is increasing. Even in India the annual consumption of cigarettes is now about 6,500 million as compared with an annual figure of somewhat under 1,000 million pre-War. The cigarette is thus at present advancing in world-wide favour but the consumption per head appears to be highest in the United Kingdom. The following table of estimates of per caput annual consumption of cigarettes is based on figures given in official publications of the United States and Canada :—

Increase in cigarette smoking not confined to the United Kingdom.

	1926.
United Kingdom	880
United States	678
Belgium	560
Germany	453
New Zealand	415
Denmark	384
Netherlands	319
Canada	303

The per caput consumption of 678 in 1926 for the United States is the figure given by the report of the United States Department of Commerce, but other American publications have adopted as high a figure as 763.

VII.—DISTINCTION BETWEEN PIPE AND CIGARETTE TOBACCO.

29. For cigarettes a brighter leaf, of finer texture, is required than for pipe tobaccos. Some pipe mixtures contain a certain proportion of cigarette tobacco, but a typical pipe tobacco is usually unsuited for cigarettes. In some of the growths of tobacco it is possible to use certain of the leaves of the plant for cigarettes and for pipes. Broadly, however, a distinction

can be drawn between cigarette and pipe tobaccos. Thus among American growths the brightest coloured tobaccos, grown chiefly in the States of Georgia, North and South Carolina, and, to a lesser extent in Virginia, are mainly used for cigarettes and the darker tobaccos of those States as well as those of Kentucky and Tennessee are used for pipe and chewing tobaccos.

✓ Empire tobacco suitable for cigarettes only recently available.

30. With the exception of the Cyprus, the Borneo and most of the Indian tobaccos, the Empire tobacco imported into the United Kingdom is of the American type, grown from acclimatized American seed. Hitherto, however, most of the tobacco imported into the United Kingdom from the Empire has been of the darker varieties most suited for use in pipes. It is only in the last two years that Empire tobaccos really suitable for cigarettes have become available. It may be taken that, at present, the imports from Canada, India, the Union of South Africa, and about 85 per cent. of the tobacco from Nyasaland consist of pipe tobaccos. Some 15 per cent. of the imports from Nyasaland and 75 per cent. of those from Rhodesia are of the cigarette type.

✓ Proportions of Empire and American tobaccos used for pipes and cigarettes.

31. It is clearly impossible to determine the ultimate use of each pound of tobacco imported, but from the figures and statements supplied to us by the trade we have made the following rough estimate to show the proportions of Empire and American tobacco used in the United Kingdom for the manufacture of products for local consumption in 1924 and 1927 respectively:—

—	Pipe Tobacco.		Cigarette Tobacco.		Total.	
	Quantities in thousands of pounds.	Per-centage.	Quantities in thousands of pounds.	Per-centage.	Quantities in thousands of pounds.	Per-centage.
1924.						
Empire ...	11,000	22	—	—	11,000	8·4
American ...	39,000	78	78,000	100	117,000	91·6
Total... ..	50,000	—	78,000	—	128,000	—
1927.						
Empire ...	18,000	37	2,000	1	20,000	14·9
American ...	31,000	63	86,000	99	117,000	84·1
Total... ..	49,000	—	88,000	—	137,000	—

32. This table shows that Empire tobaccos are already fairly established in the pipe trade but are only just appearing in the cigarette trade. Over 250 brands of Empire pipe tobaccos—either composed solely of Empire tobacco or blended with American—have been placed on the British market and about 40 to 50 brands of Empire cigarettes. The fact that Empire pipe tobaccos became available in quantity before Empire

cigarette tobaccos has, in our opinion, been fortunate. Much has to be learnt in introducing into an established market any product from a new country. The market for pipe tobaccos is less fastidious than that for cigarette tobaccos. Moreover, in blending for pipe tobaccos a wider range of varieties and growths may be used than in blending for cigarettes; and thus it is easier for a tobacco from a new country to be tried in pipes than in cigarettes.

VIII.—STOCKS OF EMPIRE TOBACCO—PIPE AND CIGARETTE.

33. We have mentioned the trade practice of keeping tobacco in stock to mature. According to the trade statistical information published each month by Messrs. Frank Watson and Co., the stocks of American tobacco in the three ports of London, Liverpool and Glasgow have varied from month to month during the years 1926 and 1927 between one year and five months' supply and two years' supply, calculated on the average deliveries of the three previous calendar years. The consumption of Empire tobacco has recently been increasing so rapidly that a calculation of the stocks on the average of the deliveries of the three previous years would give a wrong impression of the probable effects of these stocks. It is preferable to compare stocks of Empire tobacco with deliveries in the preceding year. The number of years' stocks of the various kinds of Empire tobacco at these three ports of London, Liverpool and Glasgow on 1st January, 1927, and 1st January, 1928, based on the previous year's deliveries in each case, was as follows:—

Heavy stocks of Nyasaland, Rhodesian and South African tobacco.

	Stocks on 1st January, 1927.	Deliveries in 1926.	Number of years' stock on hand.	Stocks on 1st January, 1928.	Deliveries in 1927.	Number of years' stock on hand.
	Thousands of lbs.			Thousands of lbs.		
Canada	2,516	2,380	1 $\frac{1}{2}$	4,087	2,950	1 $\frac{2}{3}$
India	14,066	6,511	2 $\frac{2}{3}$	13,618	7,710	1 $\frac{7}{8}$
Nyasaland	10,308	7,845	1 $\frac{4}{5}$	16,791	7,200	2 $\frac{2}{3}$
Rhodesia	1,825	1,045	1 $\frac{5}{8}$	9,652	2,016	4 $\frac{7}{8}$

South Africa is not included, as the stocks in England on 1st January, 1928, were small, but there were on that date large supplies lying in South Africa awaiting shipment.

Note.—Stocks necessarily vary from month to month and for those from any particular source usually attain their maximum at the end of the shipping season. Tobacco usually arrives in the United Kingdom:—

From Canada between February and March,
 " India between June and October,
 " Nyasaland between June and December,
 " Rhodesia between August and January,
 " the United States between October and March.

The number of years' supply in hand on 1st January, 1928, of Canadian and Indian tobaccos was very similar to that normal for American tobacco, but in the case of Nyasaland, Rhodesia and South Africa, the stocks were unduly heavy.

Stocks of Empire tobacco separated into pipe and cigarette tobaccos.

34. It is important to separate these figures of stocks of Empire tobacco, as far as can be done, into those primarily suitable for pipe tobaccos and for cigarettes. This can only be done very approximately. If we break up the table on the lines adopted in paragraph 29 to distinguish pipe from cigarette tobacco we get the following result.

	Pipe Tobaccos.		Cigarette Tobaccos.	
	Stocks on January 1st, 1928.	Deliveries in 1927.	Stocks on January 1st, 1928.	Deliveries in 1927.
	Thousands of lbs.		Thousands of lbs.	
Canada	4,087	2,950	—	—
India	13,618	7,710	—	—
Nyasaland	14,291	6,400	2,509	800
Rhodesia	2,452	500	7,200	1,500
Total	34,448	17,560	9,700	2,300
Number of years supply based on deliveries in 1927.	2 years.		4 2/12th years.	

This shows that the stocks in England of Empire pipe tobacco are about the normal two years' supply, but that on the deliveries of 1927 the stocks of Empire cigarette tobacco are four years' supply. Since much of the stock is unsold and is still the property of the producers, and since the crops coming forward in 1928 from Rhodesia and Nyasaland, though smaller than those of 1927, are still large, a position exists which is causing great anxiety in those countries. Unless there is a rapid extension in the use of Empire tobacco in the cigarette trade in the United Kingdom the development of Rhodesia and Nyasaland is likely to be retarded. A heavy fall in prices from those realised in previous years has already occurred, and this is, to some extent, reacting on prices obtainable for other Empire tobaccos.

Temporary curtailment of production in Rhodesia is necessary.

35. Though a temporary curtailment of production in Rhodesia is necessary in order that the present stock and forthcoming large crop may be absorbed there is no reason to take a pessimistic view of the future. The prices realised for Empire tobacco throughout 1928 will no doubt cause a contraction of plantings, but it is important that this contraction should not go too far. It is evident that a doubling of consumption of Empire cigarette tobacco would suffice for a reduction of the stocks from four to the normal two years, which we have shown

is characteristic of the trade. Having regard to the increase in the consumption of Empire tobacco which has taken place in recent years, such development is not impossible of attainment, and it must be remembered that in a trade which depends so largely on the goodwill attached to standardised articles continuity of supply is of the first importance. Violent fluctuations in quantities and qualities are not to the ultimate advantage of any of the parties interested—the grower, the manufacturer or the public. An incipient trade, with producers alternately over-confident and over-nervous, is liable to excessive fluctuations both of supply and of quality. It is urgent, in order to give confidence to the manufacturer in Great Britain that they should be minimized. How far Government action or producers' organisations can be invoked, is a matter for careful consideration which we shall discuss when we have described the existing methods and organisations of the trade.

IX.—TRADE ORGANISATION IN THE UNITED KINGDOM.

36. Supplies of leaf reach the United Kingdom market chiefly in two ways. The first is direct purchase in the country of production by the British manufacturer for shipment on his own account. The second is for the leaf to pass through the hands of merchants, brokers, and dealers, on its way to the manufacturer. The general practice of the Imperial Tobacco Company is to buy in the country of production, but other manufacturers are, for the most part, supplied by the second method. The position of this Company in the industry is such as to merit separate treatment.

Two methods of purchase.

X.—POSITION OF THE IMPERIAL TOBACCO COMPANY.

37. In 1901 a number of long established British tobacco firms were combined into a single company—the Imperial Tobacco Company (of Great Britain and Ireland) Limited—in order to meet more effectually a determined attack which was then being launched on the British tobacco industry by a powerful association of American manufacturers. The Company now includes 18 firms, which are believed to manufacture well over two-thirds of the tobacco smoked in the United Kingdom. The constituent firms retain their separate entities within the combination, but the Company in all matters of purchase of leaf acts as a single unit. With the exception, at the one end of actual growing, and at the other of retail sale, the activities of the Company cover all branches of the industry; the regrading in accordance with their own special requirements; the drying down the tobacco to obtain the correct amount of moisture for shipment; the packing; the transport to the United Kingdom; the warehousing; and the manufacture and final distribution both to wholesalers and retailers. The Company has established its own factories or re-

handling plants in various countries. It possesses in all 35 factories, of which 31 are in the States of Georgia, North and South Carolina, Virginia, Kentucky and Tennessee, one is at Latakia in Syria, and three are within the Empire, namely, at Limbe in Nyasaland, built in 1908, at Chatham in the Province of Ontario, Canada, built in 1926, and at Salisbury, Southern Rhodesia, now in course of erection. Through its associate, the British American Tobacco Company, it does a great buying trade in India, Australia, South Africa and elsewhere in the Empire. The Imperial Tobacco Company has already placed several Empire brands on the British market, and whilst this report was being prepared it introduced a high-grade Rhodesian cigarette.

XI.—METHODS OF SALE OF LEAF ON LONDON MARKET.

38. The leaf not bought in the country of growth usually passes through the hands of merchants and brokers. Unlike some other trades, no hard and fast distinction is drawn between the functions of the merchant and the broker. The larger firms which can command considerable finance, generally describe themselves as tobacco merchants, and usually buy abroad either on behalf of manufacturers or, relying on their knowledge of existing stocks and of probable requirements, on their own behalf. Such merchants, however, also act as brokers when they receive consignments for sale on behalf of packers overseas. A few firms confine their attention mainly to brokerage and engage in the actual purchase or financing of the leaf only to a limited extent.

Published prices more an indication than full record of transactions.—Importance of packing house.

39. The published market prices for leaf in London relate only to the trade conducted there by merchants, brokers, etc., and bear only a remote relation to prices given by manufacturers when buying in the country of production. Even with this limitation, they are more an indication of the run of prices than a record of actual transactions. There are in Great Britain no leaf auctions or tobacco Exchanges nor is there any "futures" market in tobacco. Business is conducted on the basis of 4 lb. samples drawn from stocks by experienced warehouse officials at the time when the parcels are opened for Customs inspection. Each bale or hogshead is separately sampled. Thus, business is not transacted on standard descriptions of quality and character. The general view of manufacturers and dealers is that the requirements of the industry vary so much that it is necessary to see the actual sample. This does not mean that tobacco reaches the London market ungraded. As will be shown in the next paragraph, strict uniformity throughout the hogshead or bale is of the utmost importance if a tobacco is to win for itself a good name among manufacturers. It is for this reason that in America, where the trade in leaf has existed for three hundred years that the "packing" house plays an important role.

XII.—LEAF MARKETS IN AMERICA.

40. In America the farmer brings his tobacco carefully sorted in a few grades to open auction floors. The purchaser may be a manufacturer's representative, or he may be a buyer for resale. In either case the tobacco is taken to the packing house where it is carefully regraded. Thus the greater part of the American tobacco which reaches the United Kingdom passes through the packing house, and the run of each hogshead as it reaches the British market is very uniform.

41. Various attempts have been made in America to establish pools for widespread co-operative sale by producers. These have helped to maintain prices in the open competitive markets but where they have resulted in holding up supply for a prolonged period, they have either failed or only achieved partial success. Where serious failure has resulted it has usually been due to several causes of which the following have been the most common :

American
attempts at
co-operative
sale by
producers.

(a) All farmers did not join in the movement and buyers were able to satisfy much of their requirements outside the " Pool " so that at the end of the season the " Pool " was left with stocks unsold ;

(b) American farmers could not agree to limit cultivation sufficiently for the following crop to prevent competition between the new crop and the stock left over from the previous year ; and at times stocks have been carried by the " Pool " for three years.

(c) A point came at which the banks declined to finance the stock with the result that the farmers' organisations were forced to sell at the best prices obtainable.

42. Finance necessarily plays a large part in the handling of the tobacco crop and the process of marketing has become so stabilised in America that the President of the Tobacco Association of the United States in his Annual Review of 1927 said that

Financial
assistance by
banks.

" there is less of the haphazard borrowing in the tobacco trade now than there used to be, and the situation is very different, both for the banks and the tobacco trade in general. Bankers are becoming more and more cognizant with the tobacco business and understand better the requirements of dealers and manufacturers of tobacco than they used to, and nearly all of them have some officer who is cognizant with the uses of the trade and knows how to handle the tobacco situation when it comes up. The handling of the tobacco business has become a speciality with many of the large banks and they are acquainting themselves more fully with the requirements of the tobacco people, and any man in business worthy of credit can usually get what he wants from the banks with whom he does business."

As Empire production becomes more stabilized and developed it is reasonable to expect that the local banks will make themselves familiar with the special features of the tobacco trade and actively aid its progress.

XIII.—NEED FOR UNIFORMITY IN THE PACKAGE.

43. Producers not infrequently attribute their difficulties in marketing either to the neglect of merchants or brokers or to the vested interest of manufacturers in competing sources of supply or, more vaguely, to the conservatism and prejudice of the British consuming public. They forget that the men whom they have primarily to satisfy are those who have charge of the leaf blending and cutting operations in the factory. These men have the responsibility of producing a standardized blend from the leaf supplied to them. Any lack of uniformity in the run of a hogshead or bale is at once detected and interrupts the flow of work. It is naturally reported promptly to the owner or to the leaf purchasing branch of the Company and if the difficulty occurs frequently that tobacco is given a bad name in the factory. It is not the merchant or the factory owner or the man in the street who has primarily to be considered, it is the blender in the factory, whose livelihood is at stake, whom producers must primarily satisfy. Empire tobaccos have shown much improvement of late in this important respect of uniformity in quality, but individual shippers still frequently fail to conform with the standards needed.

XIV.—BALES VERSUS CASES.

44. Another matter of great practical importance from the point of view of successful factory working is connected with the material used for packing the tobacco. American tobacco is packed in wooden hogsheads each containing 800 lbs. Rhodesian and Nyasaland tobaccos are packed in bales of 220 lbs. and from two to three cwts. respectively. Most Manufacturers believe that tobacco matures better in the cask than in the bale and all complain that packing in bales results in greater breakage of leaf and therefore of waste more particularly when by inexperience it is overdried. Local supplies of suitable timber are difficult to obtain in Rhodesia and Nyasaland. Also, owing to the present transport difficulties the packages must be lighter than those used in the American trade. None the less, the objections taken by manufacturers to much of the present packing in bales are real and well founded, and producers would be well advised in their own interest, to devise methods for more effectively protecting their leaf from damage. It may even be necessary, as is now done in South Africa, to import suitable packing cases.

XV.—NATURE OF THE COMPETITION IN THE UNITED KINGDOM.—A. PIPE TOBACCOS.

45. It is essential that the Empire producer should recognise that in entering the British market he is endeavouring to enter a well-established trade where goodwill depends largely on the flavour associated in the public mind with American tobacco. It is very satisfactory that as much progress has been made as is evidenced by the statistics, but this very progress will undoubtedly call forth renewed stringency of competition. About one-third of the total exports of American leaf are directed towards the United Kingdom and the competition of Empire grown pipe tobaccos in this market is fully realised. The following extract is taken from the Weekly Tobacco Circular dated 21st February, 1928, issued by the Department of Commerce of Washington :—

Effect of Empire supplies on American production of pipe tobacco.

“ Owing to the accumulation of British Empire tobaccos in Europe and Canada further reductions are incumbent upon American growers if they would avoid future price declines. Moreover, a concentration on quality is far more likely to produce grades less susceptible to foreign substitution. The brunt of European competition of American tobaccos to-day is being born by the low grades, especially the low grades of dark tobaccos.”

A table is printed in the same circular showing the production of tobacco by types in the United States during 1926 and 1927. This table shows a very marked reduction in the production of the darker or pipe tobaccos, “ the underlying reason for which is the increased production of leaf tobacco in British Colonies, and the substitution of these types for American darks in European markets.” It is important, however, to note that this Washington circular emphasises the need for attention to quality in the competition which it foresees. The same holds true for the Empire producer.

46. It is apposite here to record the vicissitudes of Empire pipe tobaccos on the British market in the early days of preference. The preference gave a definite advantage in duty and the opportunity was seized, especially by some of the smaller manufacturers, to rush out a cheaper pipe tobacco labelled “ Empire ” and made from whatever Empire leaf was available. An attempt was made during manufacture to mask some of the stronger flavours, but, none the less, a certain prejudice was created amongst smokers in some parts of the Kingdom against Empire tobaccos. This prejudice has since caused difficulty as better supplies became available. Among some consumers the memory of those early failures still lingers. This prejudice has now mainly been lived down, as far as pipe tobaccos are concerned, as is shown by the figures already quoted. But growers of cigarette tobacco who are now opening their campaign should not forget the lesson to be learnt. The

Early prejudice against “ Empire ” brands.

possibility of taking effective steps to prevent the shipment to the United Kingdom of tobacco below certain minimum standards of quality, merits the earnest consideration of producers' organisations and of Governments.

XVI.—CIGARETTE TOBACCOS.

Possibility
of change of
taste by
public

47. Care of type and quality is of special importance in cigarette tobaccos, for in that section of the trade American competition is likely to remain severe, and the evidence shows that cigarette smokers appear to be more closely wedded to their favourite smokes than pipe smokers. Empire growers of cigarette tobacco have not merely to meet price competition from America, but must also persuade the British cigarette smoker that they can supply him with cigarettes of the type he likes. We are inclined, none the less, to think that a little too much has been made of the "distinctive flavours" of Empire grown tobaccos and of the conservatism of the cigarette smoker. Given enterprise and a little time, both can to some extent be changed. In a word, the flavour and the smoker may move towards one another. There are several instances on record of considerable changes of prevalent taste in relatively short periods. In the United Kingdom there has been a large change over from the cigarette of Oriental to that of Virginian type. In South Africa cigarettes made from imported American leaf have been practically ousted by those made from local growth. There is a parallel change in progress in the United States to-day, where cigarettes of blended tobaccos of Virginian and Turkish types are gaining ground at the expense of those of pure American. The prevalence of a taste for a particular tobacco is largely a matter of fashion, and fashions are notoriously changeable.

Need for
supplying
tobacco of
accepted
flavours.

48. It is, none the less, incumbent on the producer to endeavour to supply a tobacco to the British market which shall do least violence to established tastes, if only to shorten the distance through which the popular taste must travel in order to establish the new tobaccos in favour. Especially in Canada and Southern Rhodesia much progress has been made to this end, and with more study and greater knowledge of the problems connected with the culture, curing and maturing of tobacco more can still be achieved. Several brands of Empire cigarettes—either composed solely of tobacco from particular parts of the Empire or blended with tobaccos of other origin—have been placed on the British market with varying success. Some have established themselves, but others have flourished for a time and then fallen out. The recent action of the Imperial Tobacco Company in putting on the market a high grade Rhodesian cigarette should give encouragement to Rhodesian growers, for it indicates a confidence on the part of the manufacturer that the requisite supply of good quality will

be forthcoming, as otherwise he would not be willing to go to the expense of establishing a new goodwill, but would rest content with exploiting the well-known types.

XVII.—PROBLEMS BEFORE EMPIRE PRODUCING COUNTRIES.

49. The difficulties in the way of the production and sale of Empire tobaccos on a large scale may be classified as connected with:—

- (a) the cultivation of the required types;
- (b) marketing.

But the problems involved under both heads must vary according as to whether the tobacco crop of a country is produced mainly for local consumption or for export. In the former case, as in India and Canada, producers are primarily concerned with the local conditions and only in a secondary degree do they aim at meeting the requirements of the British market. In the latter case, as in Southern Rhodesia and Nyasaland, the requirements of the British market are the dominating factor.

XVIII.—RESEARCH.

50. In most of the countries of the Empire in which tobacco growing offers commercial prospects, special branches of the Departments of Agriculture have been established to study and test tobaccos and to instruct and assist farmers. Varietal tests on experimental farms, soil surveys, a study of methods of curing, as well as seed distribution and advice on cultivation, curing and packing are common features of the activities of these Departments. Some of the improvement that has been noticed in Empire tobaccos is directly traceable to the work done by these Government Departments. Experimental work takes time to yield results, and it is not surprising if the recent rush to produce in certain countries has outstripped the capacity of the Departments to advise. But the results obtained will have an increasing influence each year on the quality of the commercial crop produced. In Canada, South Africa and Australia the research work on tobacco is assigned to Federal or Central rather than to Provincial or State Departments, but in India it is to a large extent in the hands of the provincial departments, though a proposal has been made to establish a Central Tobacco Bureau under the Government of India for the purpose of co-ordination. There is one outstanding important problem, namely, the attainment of a particular smoking quality in the leaf, and therefore a concentration of effort is most likely to yield results. It should also facilitate the interchange of experience between different parts of the Empire.

Action by
Departments
of Agricul-
ture.

51. The large tobacco companies—such as the Imperial and its associate the British American Tobacco Company—either directly or through local subsidiaries are also conducting research.

Action by
large tobacco
companies.

This is notably the case in India and in Nyasaland, and an announcement has just been made of similar endeavour in Uganda. In India the Indian Leaf Tobacco Development Company maintain an experimental station, with a staff trained in agricultural science and plant breeding. Contracts are made with cultivators, who receive seedlings from the Company's own farms, and undertake to deliver their crop to the Company. As a result, there has been a considerable improvement in pipe tobaccos and an ever increasing use of locally grown tobaccos in the manufacture of cigarettes, the local market for which is rapidly extending.

Investigation of the effects of soil, climate, manuring and curing on flavour.

52. One of the most interesting problems in tobacco cultivation arises from the wide variations which result when the seed is taken to new localities. Tobacco is humorously described as a "weed," and the term is justified by the ease with which it grows, but the flavour and texture are extraordinarily subject to soil and climatic variations, possibly also to manuring and certainly to curing. Seed from the United States has yielded a flavour not very dissimilar from that in its original habitat when grown in Canada and on the sandy soils of Southern Rhodesia. On the other hand, the first efforts in Australia to grow tobacco of the required type from Virginian seed resulted in a very strongly flavoured product with a changed aroma. The Commonwealth Government and the British Australasian Tobacco Company have agreed jointly to set aside £30,000 a year for three years for investigation and field testing. This sum is to be raised to £60,000 a year for another three years if there be sufficient progress. The Company have brought to Australia under most careful conditions, some nine tons of typical tobacco soil from America for the purpose of conducting tests under strict control as against local soil. The experiment is not concluded, but the first trials point to the probability that when the local soil is sufficiently light and the correct fertilizer used, a tobacco closely approaching the original in aroma can be produced. In India investigators are inclined to lay more stress on curing and subsequent maturing than on the conditions of growth.

Mapping of suitable areas should be under scientific direction.

53. Notwithstanding that distinctive varieties of tobacco tend to retain their aroma even under marked changes of environment, and to that extent flavour may be regarded as heritable, it seems none the less certain that the nature of the soil and even the character of the sub-soil, not to mention climatic peculiarities, have a great influence. Certainly in the United States the tobacco areas are very localised; and the same is becoming evident in Canada and South Africa. In Canada the Tobacco Branch of the Federal Department of Agriculture has already begun to map the soils in the areas they believe suitable for tobacco. Much of this work must be done by the method of "trial and error," but it should be under scientific direction if one country is to be of service to workers in another country.

54. As the result of these varying investigations it is likely that the more extreme variations from the standard types may be eliminated. On the other hand, the establishment of standard flavours characteristic of different producing countries may well have a considerable commercial value. One thing that may certainly be accepted is that a much greater "smoothness" should be obtainable and would prove a profitable asset in many Empire tobaccos.

Importance of "smoothness" in smoking.

55. Further knowledge is needed on the effect of "ageing" or "maturing" on Empire tobaccos in the hogshead and in the bale. Another question to be determined is whether tobacco matures better in the country of production than in the United Kingdom. The varieties of tobacco are legion, and we expressly do not contemplate the carrying out of such investigations in regard to any tobacco a country in the Empire might produce and care to have examined. Attention should be concentrated on those tobaccos—especially cigarette tobaccos—which already possess the character required for the United Kingdom market. These investigations require to be carried out partly in the country of origin and partly in the United Kingdom. They form a group of problems in the elucidation of which the Empire Marketing Board, in connection with the trade in this country, might well be able to assist.

Problems of "ageing" and "maturing."

56. It is a curious fact that although aroma is obviously of the first commercial importance in regard to tobacco, yet very little is definitely known in regard to its chemical and biological causes. Dr. Garner, the Senior Physiologist of Tobacco and Plant Nutrition in the United States Department of Agriculture, informs us that so far

Problem of aroma.

"there is no agreement as to classification of the aroma constituents in tobacco and that it is not definitely known whether they are to be regarded as resins or true essential oils, and that very little progress worthy of mention has been made in isolating and identifying compounds contributing to aroma."

It would be contrary to all experience if the further investigation of this elusive and difficult matter were not to lead to practical applications of use to producers and manufacturers. The object of tobacco smoking is to enjoy aroma and it would certainly appear that investigation into the nature of aroma should be fundamental to most other lines of research bearing on this trade, whether connected with the growth, the curing, the maturing, or the manufacture of the leaf. For this reason and in view of the acknowledged complexity of the problems involved, this subject appears to us to be one well suited for centralised research. At the same time, where so little has as yet been done in the way of defining the questions to be addressed to nature we hesitate to recommend to the Empire

Marketing Board any considerable expenditure, until preliminary investigation has made clear the lines of attack. We think, however, that a comparatively small expenditure of money on a few carefully considered investigations might show the necessity for further expenditure on fundamental research.

Future conference between scientists at work on tobacco.

57. When that stage has been achieved and the problems are more defined it may be advisable to arrange, if possible, for a small conference of those who are engaged in various lines of tobacco research in the United Kingdom, and of representatives from those Empire countries in which scientific work on tobacco is in progress—Canada, Australia, South Africa, Southern Rhodesia, India and Nyasaland—to interchange experience, to establish contact, and, if possible—subject always to their local conditions—to correlate the main lines of future action.

XIX.—PROBLEMS OF MARKETING—PRODUCERS' ORGANISATIONS.

Present position of the Empire tobacco industry.

58. The immediate problem confronting many Empire producers is, however, one of marketing. We have recorded in the earlier portion of this report;

the rapid increase in the production of Empire tobacco in recent years notably in Canada, South Africa, Rhodesia and Nyasaland (para. 10);
the success attained in gaining a large share of the pipe tobacco trade, and the slow progress made in entering the market for cigarettes (paras. 29 and 30);
the undue accumulation of stocks for the time being of Empire tobacco (paras. 31 and 32); and
the practice of the larger buyers in the trade of purchasing their leaf in the country of production (para. 35).

We have also stated that the present trade position from the point of view of the producers in certain of the Empire countries is a serious one.

The industry in Canada.

59. In Canada the number of new growers has greatly increased since 1925 and the principal co-operative society has become an ordinary trading organisation buying outright from any producer on ordinary packing house terms. Several new packing houses have been established by large purchasers and, although stocks are large, the position is under control.

In February, 1928, the Federal Government appointed a commission to review the whole industry in Ontario and Quebec, with special reference to the marketing arrangements and the existence of unsold stocks. The report,* which was issued at the end of June, contains a very full survey of the present

* Report of the Tobacco Enquiry Commission in the Provinces of Ontario and Quebec—Ottawa—price 25 cents.

tobacco position in those Provinces and makes many practical suggestions regarding growing, marketing and the distribution of information.

60. In South Africa the growers are organised in producers' organisations. There is an element of compulsion in the South African co-operative movement which is absent from that in Southern Rhodesia. Within the Union when 75 of the producers in any area, together producing at least 75 per cent. of any specified kind of agricultural produce are members of a co-operative society, then that society can in accordance with the Co-operative Societies Act, move the Government to order that all producers in that area, whether members of the society or not, must deliver their crop to, and sell through, the society. Five of the chief co-operative societies of tobacco growers have received such compulsory powers. These five with other co-operative tobacco societies, are associated in the Central Co-operative Tobacco Company which regulates the prices at which leaf may be sold to local manufacturers for the home market and controls the selling of the whole of the surplus stock of their members available for export. Thus, a practice of centralised selling, combined with the co-operative practice of giving the farmer, at the time of delivery of his crop, an advance based on its anticipated market value, has been established. In 1925/26 and again in 1926/27 the societies succeeded in obtaining good prices for the growers, with the result that there was a rapid extension of cultivation and several farmers were led to take up tobacco as a sole and not as a rotational crop. The stocks at present in South Africa are in excess of the immediate demands of the markets, both locally and in Great Britain.

In South
Africa.

61. In Southern Rhodesia the practice of the local co-operative society, which includes most of the growers, had been up to 1924 to sell the crops produced by their members on three years' contracts to the United Tobacco Company (South) Limited, to the representatives of the Imperial Tobacco Company in South Africa, and to certain South African tobacco manufacturers. In 1924 the Wembley Exhibition took place, and, as a result of the favourable comment there excited, 10 per cent. of the crop was exported to the general leaf market in London. In 1925 and 1926 Rhodesia was visited by several eager buyers. The Rhodesia Tobacco Warehouse and Export Company, Limited, as the Co-operative Society has now been renamed, thought they saw an opportunity to benefit their members. They dropped the long contracts, which had given an assured offtake for a large portion of the crop, and diverted the whole of the produce of the Dominion, above the local requirements of South Africa, to the London market.

In Southern
Rhodesia.

62. This action was for the moment highly profitable to the Rhodesian grower. He had obtained between 1921 and 1923 an average price of 8½d. a lb.; but for the crop of 1924-25

he received an average of 13 $\frac{3}{4}$ d. a lb., and for that of 1925-26 an average of 16 $\frac{3}{4}$ d. a lb. In 1926, and also in 1927, the Warehouse Company, anticipating a continuance of good prices, made advances to the growers at the average rate of 1s. a lb. at the time of delivery of their tobacco. In many cases this was above the cost of production and left the farmer a small profit. Most of the crop was sent to England for sale. We have explained earlier in this report that probably less than one-third of the total of manufacturers' requirements passes through the leaf market in England. This market readily absorbed the million pounds sent to it in 1925, and most of the two million sent in 1926, but when this was followed by nine and a quarter million pounds in 1927, the supply exceeded the demand and a considerable portion of the 1927 crop is still on the hands of the producers, though warehoused in London. The excellence of the type of tobacco has actually increased the difficulty. Much of it is suitable for cigarettes, but sufficient time has not elapsed to accustom the British public to Empire cigarettes. Two mistakes were made. The first consisted in sending so much of the crop to the London market, instead of retaining the established outlets for the major portion of the crop whilst the new market was being tested, the second in giving such a high average advance as 1s. a lb. in the face of the probability of a fall in price on account of the heavier crop.

Temporary curtailment of production advisable.

63. As a result of these events it is expected that plantings for the 1928 crop will be restricted both in Southern Rhodesia and in the Union of South Africa. But, from the manufacturers' point of view, continuity of supply of established qualities is essential and we trust that restriction will not go too far. We do not fear for the final success of Empire tobacco, but that success may be deferred if the market be disorganised by alternate over-stocking and under-supply. The British market is not yet fully familiar with the new kind of tobacco on offer from the Empire, but there should be a steady and gradual growth in the demand. Other Empire countries, as, for instance, Australia, New Zealand, Mauritius, and various Crown Colonies, have been considering the possibility of supplying tobacco to the United Kingdom market, but we suggest that before they attempt to send their tobacco to the United Kingdom in commercial quantities, they should assure themselves that not only have they an article likely to be acceptable to the British public, but that the supply of Empire tobacco is not for the time being outrunning the gradual growth in the demand. In view of the established foreign supply, the introduction of new tobaccos must inevitably be a somewhat delicate business requiring careful adjustment.

Need for and functions of producers' organisations.

64. With a view to such adjustment, which it is obviously impossible for individual producers in distant lands to compass unaided, some form of producers' organisations, where those are possible, is advisable and indeed necessary. If there is not

to be an alternation of disastrous gluts and scarcities organisation among growers is essential. We have consistently in our reports advocated more orderly marketing, but in so doing we have drawn attention, especially in our report on the marketing of dairy produce, to the dangers that arise from holding up supplies already warehoused in Britain until prices should rise to some desired level. The recital we have just given of recent events in South Africa and Southern Rhodesia illustrate other dangers. On a rising market, it is easy for co-operation to succeed and to give satisfaction to the producers. The result of miscalculations only become evident, as a rule, when the market begins to fall. It is of the first importance that payments to producers in advance of the sale of their produce should be kept on a moderate scale, and that the closest knowledge obtainable of the capacity and nature of the market should be secured.

65. Producers' organisations can assist most powerfully in encouraging orderly marketing. We consider, however, that much of their most beneficial work lies in regularising supply, establishing grades and stimulating demand. The long view is especially important in the case of tobacco, which is not a perishable article. The trade needs to see its supplies ahead and the carrying of stocks is a normal feature. Efficient producers' organisations should be able to advise farmers in ample time for the plantings of their crops. Fears have been expressed lest such organisations should endeavour to exact too high prices or to impose onerous sale conditions, but any tendency in that direction will bring its own retribution. The British manufacturer is free to buy his tobacco from many countries, and since he requires continuity of supply, it is not to the interest of producers in any given country to spoil their goodwill by exploiting any temporary advantage which an unexpected turn in the market may present. Producers' organisations, by study of the trade and by consistently taking the long view, can bring into the industry those elements of stability which the farmers and the trade alike require.

The long view necessary in the tobacco trade.

XX.—OPEN SELLING FLOORS.

66. In some of the smaller colonies, as, for instance, in Nyasaland and Northern Rhodesia, centralised sale through producers' organisation may not be practicable. In those cases, the possibility of establishing "open selling" floors, or, in other words, central markets for leaf, is worthy of consideration. If such markets were organised under official or semi-official control, so that any profits were devoted to the improvement of the equipment and to the employment of adequate staff, we should expect them to develop into centres from which trade information of value to planters would be disseminated and at

which improved methods of grading and packing would be gradually evolved and standardised.

XXI.—GRADING.

67. We have received some very conflicting evidence on the subject of the establishment of official grades. If by that term is understood the definition of grades so minute and exact that tobacco may be sold on grade without sampling we do not think that that is possible or advisable for Empire tobaccos. Even in America, where production is on a great scale and the trade has been established for 300 years, grading has not been introduced to that degree. A tentative grading scheme, which has been prepared by the United States Department of Agriculture, divides American tobaccos into four types and allows for a possible 270 grades in each type. Anything of that nature is too elaborate for the present scale of Empire production, yet stabilisation of grades and types before primary sale is advisable. A beginning has been made in several of the Empire countries, notably in South Africa and Southern Rhodesia, but as uses of the different kinds of tobacco become better known and defined further elaboration will be needed. The desirability of preventing tobaccos which do not reach a certain minimum specification from reaching that market is worth the grave consideration of producers' organisations and, possibly, of some of the Governments concerned

XXII.—LEAF PRICES.

68. The possibility of competing in a product which has a world market must ultimately depend in each country on the local cost of production. In the case of tobacco, growers have the great advantage that they are producing an article which is sold retail at prices which remain constant for long periods. Provided, therefore, that the wholesale markets can be kept reasonably stable, it should be possible for producers to depend with some confidence on a margin of profit over their costs of production. This fact should act as a stimulus to producers to reduce their costs. As we have said, the Rhodesian grower obtained in 1924-1925 a price of 13½d. a lb., and 16½d. per lb. in 1925-1926. The United States Department of Agriculture reports that American farmers received an average of 17 cents (8½d.) a lb. for their crop in 1925, and an average of 18½ cents (10d.) a lb. in 1926, and yet, apparently, grew it at a profit. Owing to the cost of supervision, costs of production in Africa are higher than in America, but we see no reason why they should be so permanently. It should be possible, with the increasing knowledge and skill resulting from experience, to reduce costs whilst still maintaining and even improving the quality of the tobacco grown.

XXIII.—STIMULATING DEMAND.

69. Our report has shown the growth in the trade in Empire tobacco, but also it has shown that the increase in production in Empire countries is, for the time being, outstripping the demand. One well-recognised method of capturing a market is by a striking reduction in the prices at which the goods are offered to the public; another is by selling an article of better value at competitive rates. In the first case emphasis is laid in any advertising campaign on the cheapness of the article; in the other on its quality. The tobacco smoker is essentially conservative in his taste and seeks to satisfy his palate within the capacity of his pocket. In the early days of preference the brands of tobacco placed on the market under the name of Empire appealed to the pocket rather than to the palate. The results were not satisfactory either to the manufacturers, the retailers, or to the public, and, now that supplies of high-quality Empire tobacco are available in quantity, are reacting to some extent on producers.

Two methods—lower price or better value at competitive prices.

70. The retail prices of many Empire tobaccos, when first introduced to the British public under such description, were fixed at 7d. per ounce. At that time many of the standard brands of pipe tobaccos made from Virginian leaf imported from America were being retailed at 10½d. an ounce. It is probable that many who were attracted by the Empire label were accustomed to paying 10½d. an ounce for their tobacco. Yet it was manifestly improbable that Empire pipe tobacco marketed at 7d. an ounce could contain leaf similar in quality to that contained in the established standard brands selling at 10½d. an ounce, considering that the difference of 3½d. an ounce—4s. 8d. a lb.—exceeded the preference, which amounted to 1s. 4½d. per lb., and although some of the intermediate charges were also cut, there is no doubt that leaf inferior in quality to that usually used in 10½d. tobaccos was used in making many of the tobaccos which were at first sold to the public under the name of " Empire."

Results of reduced price of Empire tobacco.

71. Nor was this attempt to stimulate the consumption of Empire tobaccos by offering them at very low retail prices to the interest of the trade. Manufacturers have stated that their profits were less on the manufacture of these brands than on their established brands made of Virginian tobacco imported from America. Certainly, the retailers' margins were lower. This can be readily shown, for most pipe tobaccos are sold under proprietary names or brands, for which, as in most proprietary articles, the manufacturer fixes both the wholesale and retail prices. We have been supplied by the President of the National Union of Retail Tobacconists with the following table. In comparing the prices in the following table with those given in the preceding paragraph it has to be remembered that ½d. a lb. has

been added to cover the increase of 8d. a lb. in duty imposed in 1926 :—

Empire Pipe Tobaccos.				American Pipe Tobaccos.									
Retail price 7½d. an ounce.				Retail price 11d. an ounce.									
Price and Margin per lb. to Retailer.													
Brand.	Wholesale price.		Retail price.		Margin.	Brand.	Wholesale price.		Retail price.		Margin.		
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	
A.	8	6·6	10	0	1	5·4	X.	12	6·10	14	8	2	1·90
B.	8	5·25	10	0	1	6·75	Y.	12	8·95	14	8	1	11·05
C.	8	5·65	10	0	1	6·35	Z.	12	8·95	14	8	1	11·05

It will clearly be seen that it was not to the interest of the retailers to push Empire tobaccos as against the more highly-priced American. A retailer would have had to increase his sales by 30 per cent. in quantity to obtain the same gross profit from selling Empire tobacco as from selling that imported from foreign sources.

72. What appears to have happened was that as long as supplies of high quality Empire leaf were comparatively short they were readily used in blending in standard pipe mixtures not labelled as "Empire," and the brands which were labelled "Empire" contained a large proportion of the poorer kinds of Empire leaf. Thus concurrently with the producers getting good prices for their better leaf, suspicion was engendered in the minds of the British public in regard to tobaccos sold as "Empire." This suspicion has very largely been surmounted in the pipe trade, but it still lingers and reacts on the attitude of the cigarette smoker, although much Empire cigarette tobacco is now of sufficiently reliable quality to blend with that imported from foreign sources and some is, in every way, suitable for sale under its own name.

Larger cigarettes supplied at price of established brands.

73. Clearly if Empire tobaccos are to receive wide and ever-expanding sale, the manufacturer and retailer should at least be no worse off than in selling the long established brands. It is therefore satisfactory to record that, now that supplies of Empire leaf of high quality are available, brands of Empire cigarettes are being placed upon the market at retail prices similar to those for established brands and leaving to the retailers equal margins. An advantage is given to the consumer by supplying him with a cigarette larger in size. We believe that this is a wiser policy than attempting to capture the market by drastic price reductions.

XXIV.—ADVERTISEMENT.

Quality should be advocated no less than sentiment.

74. In our earlier reports we have frequently stated that it is a waste of funds to advertise an inferior article. We believe, however, that, as we have said, the time has come when Empire tobaccos can be recommended with confidence. We anticipate

that there will be an increasing intensity in advertisement of Empire tobaccos. But we consider that the greater consumption of Empire tobaccos should be advocated no less on the quality of the product than on the patriotic sentiment of the consumer.

75. In connection with the advertising of tobacco we have been led to give further consideration to the general principles of publicity to which we drew attention in our First Report published in 1925. We quote a few sentences which contain the gist of what we then stated :—

General principles of publicity.

“ By publicity we do not intend the direction of the motives of the consumer to the products and brands of particular firms. That is the concern of the trader. Our intention is that, over and above ordinary advertising on a commercial basis, there should be a continuous publicity on a national scale with a view to spreading and fostering three ideas. Firstly, that Empire purchasing creates an increased demand for the manufactured products of the United Kingdom, and therefore stimulates employment at home. Secondly, that there are certain lines in which Empire produce excels in quality and is available in adequate quantity. Thirdly, that the consumer has at his command for purposes of discrimination certain indications of origin legally prescribed. Such publicity must be continuous, for it must be remembered that a new generation is always growing up and there will be constant efforts in the way of quickened competition on the part of foreign producers, nor must it be stereotyped in method or it will lose its efficacy.”

The experience of the Empire Marketing Board in carrying this policy into effect now covers a period of 18 months, and we have some actual data to go upon. We see no reason to alter any statement in the foregoing quotation. The Empire Marketing Board have achieved a considerable result, in the way of creating interest in the movement for the development of Empire trade. Numerous witnesses who have appeared before us in our recent enquiries have testified to the effect of the Empire Marketing Board's propaganda.

76. Further, since we referred in our General Report and in our Report on the Marketing of Fruit, to the question of publicity for Empire goods, a new development of great importance has taken place. Some of the Governments of the Empire have decided to assist their producers' organisations in the advertising in the United Kingdom of certain classes of their commodities. The Commonwealth Government of Australia, for instance, is now providing a pound for pound contribution to the organised producers' associations for dairy products, dried, canned and fresh fruit and honey; in order to enable consistent publicity to be given to these commodities in the United Kingdom. Somewhat similar action has been taken by the Canadian Government for advertising particular Canadian products in the United Kingdom.

Advertising in the United Kingdom by Empire Governments and producers' organisations.

This action by producers' organisations, with or without the assistance of their Governments, is entirely in harmony with the views on publicity that we expressed in our earlier reports. Also by such action the total publicity for Empire goods is substantially increased, and the general appeal of the Empire Marketing Board is reinforced by more direct methods.

Advertise-
ment by
Empire
Marketing
Board.

77. The work of the Empire Marketing Board, while continuing to create a favourable "background" for general Empire purchasing, is also developing in the direction of stimulating demand for definite Empire products, and it seems to us that tobacco affords a special opportunity for doing this. Two ideas have been before us in this connection. The first, that advertising by overseas Governments should be synchronized as far as possible with the activities of the Empire Marketing Board so that a cumulative effect be attained. The Empire Marketing Board might legitimately take the lead in such a policy of synchronization. In the second place, notwithstanding the obvious limitations to the activities of a Government Department in the way of advertising particular lines of goods, the public will demand definite information regarding the Empire goods available in the market. It seems to us that in connection with tobacco the Empire Marketing Board might compile, from information supplied by manufacturers, lists of the brands which satisfy conditions as constituting "Empire" produce and advertise the fact that such lists are available and can be obtained on application—care would obviously have to be taken to make it clear that no liability was thereby incurred in the matter of guaranteeing quality. That procedure would enable the consumer to put pressure on the retailer by meeting his not infrequent argument that supplies were not available.

XXV.—THE USE OF THE TERM "VIRGINIAN."

In
American
official
publications.

78. Closely allied to the subject of advertisement is the use of the word "Virginian," whether it describes a type of tobacco or the local origin of tobacco. The terms "Turkish" and "Egyptian" have definitely come to mean a type or types of tobacco and it seems probable that in asking for a "Virginian" cigarette a smoker means a cigarette of bright cured leaf of the flavour and character which he has come to associate with tobacco hitherto mostly of American growth, and not necessarily a cigarette made from tobacco grown in Virginia. In fact only a small part of that tobacco is grown in "Virginia"—probably less than 20 per cent. It is mostly grown in the States of Carolina and Georgia. Therefore if the term is considered to possess strict geographical significance it is inaccurate. Further this word appears to be used in American official publications on tobacco in the form of "Dark Virginia" which is dark pipe tobacco; cigarette tobacco is therein described as "bright flue cured"—without a qualifying geographical

term. Nor is "Virginia" a strict trade synonym for American, because there are many other American tobaccos sold in the trade; such as "Westerns" and "Kentuckys." In most parts of the Empire producing tobacco the practice appears to be to use the word "Virginian" as denoting a type of tobacco—and tobaccos of that type are described as "Virginian" with or without other descriptive adjectives.

79. We believe that Empire tobaccos are and should prove good enough to sell under their own descriptions on their own merits; and we believe that it is to their ultimate advantage that they should be so sold. For that reason we would deprecate their being described merely as "Virginian," if that term still conveys to the purchaser any geographical significance. But most of these Empire cigarette tobaccos are grown from acclimatised Virginian seed, and are bright flue cured tobaccos, and, we equally deprecate the trade use of the terms "Empire" and "Virginian" in antithesis. When a manufacturer describes his cigarettes as "Virginian tobacco without substitutes" he is using an ambiguous phrase which may be taken as a reflection on the quality of tobacco of Virginian type grown within the Empire for which to-day there is no justification.

In connection with Empire tobaccos.

XXVI.—EXCHANGE OF INFORMATION.

80. This discussion of the problems of marketing has shown the importance of taking a "long view" in the tobacco trade. Hitherto production in different parts of the Empire has apparently been pushed ahead in ignorance of developments elsewhere. Each country has been attacking the British market in its own way. We expressly deprecate that any Committee sitting in London should endeavour to restrict initiative in any part of the Empire or attempt to dictate the quantity of production or the varieties of tobacco to be grown in any part of the Empire. We look for competition between the various Empire growths and we anticipate that each growth will ultimately find its special use in its section of the market, from the Latakia of Cyprus to the brightest flue cured tobacco that Southern Africa can produce. Each country must manage its own selling and arrange its own trade connections. But while we would leave local initiative untrammelled, that initiative should operate on the best information available and in a world trade such as that of tobacco some centre at which information can be collected and whence it can be disseminated should be especially useful. The progress for instance, of the present attempt to introduce Rhodesian cigarettes to the United Kingdom Market affects immediately Southern Rhodesia, but indirectly it also affects the interests of all other parts of the Empire which produce tobacco.

A Tobacco
Information
Committee
recom-
mended.

81. We would suggest that the Empire Marketing Board should set up a Tobacco Information Committee on the lines of the Fruits Committee which it has constituted in compliance with the recommendations made in our report on the marketing of fruit. This committee should arrange for the interchange of information which is already available in the offices of the Trade Commissioners in London from the various parts of the Empire overseas. On the model of the weekly circular issued by the Tobacco Section of the Department of Commerce in Washington "for the purpose of keeping the tobacco trade of the United States in touch with current tobacco events in foreign countries," the committee might issue for the use of the tobacco-raising parts of the Empire a periodical circular recording the progress of the use of Empire tobacco in the United Kingdom, which, while avoiding mere trade information in regard to such matters as prices and agencies, would keep the interests concerned informed in regard both to the progress of Empire production and of foreign competition. The extent to which trade representatives should participate in this work is a matter we think for the Committee itself to decide, having in view the condition and organisation of this particular trade.

XXVII.—CIGARS.

Contrasts to
the pipe and
cigarette
trade.

82. The cigar trade presents several sharp contrasts to the pipe and cigarette trade. It is much smaller, both internationally and in the United Kingdom. The import trade in the finished article—the cigar—supplies a much higher proportion to the consumption than is the case with either pipe or cigarette tobaccos. Whereas in 1924 only one cigarette was imported into the United Kingdom for every 1,000 manufactured locally and only one pound of tobacco for every 73 manufactured locally, one cigar was imported for every two rolled in Great Britain. Empire cigar leaf is drawn almost entirely from British North Borneo and Empire cigars from India, and to a small extent from Jamaica.

XXVIII.—CIGAR LEAF.

Production
and
international
trade.

83. The leaf used for cigars—especially those required for the outer wrappers—are a very high grade product, requiring much skill to cure and specially favourable natural conditions to produce. The chief countries which supply cigar leaf which enters into international trade are the Dutch East Indies, the Philippines, Cuba, Brazil, British North Borneo and Porto Rico. The total crop of cigar leaf for these countries was estimated in 1923 to be between 300 and 320 million pounds, and as especially in Cuba a very considerable number of cigars are manufactured

locally it will be seen that international trade in cigar leaf is, compared with that of other tobaccos, a small one.

84. Amsterdam is the chief market in the world for cigar leaf, and especially for the two most important leaves in a cigar—the “ binder ” and the “ wrapper.” The “ binder ” is the inner leaf round the “ filler ” and the “ wrapper,” which is the outer covering of the cigar, is the most expensive and most carefully selected part of a cigar. The market classification of these particular leaves is extremely detailed. One hundred and fifty standard grades of Borneo and Sumatra leaf are recognised on the Amsterdam market. Sumatra leaves have long been considered specially suitable for wrappers. But in spite of the acknowledged excellence of the Sumatran leaf, the quality of the British North Borneo leaf has lately been so improved that, with the help of the preference, it has displaced its rival to a large extent in the “ wrapper trade ” in the United Kingdom. In 1927 the direct imports of cigar leaf from British North Borneo were estimated to have satisfied half the total demands of cigar manufacturers in the United Kingdom. Markets.

85. The only Empire sources other than Borneo from which cigar leaf is imported into Great Britain, even to a small extent, are Jamaica and Canada. The imports from Canada have been more of the nature of trial shipments than of an established trade. British manufacturers complain of excessive moisture in the Canadian and Jamaican leaf shipped from these two countries. The matter is one deserving of attention, if the trade is to develop, though a remedy may not be easy to discover, for it is above all important to avoid discolouring the leaf or damaging its texture. Empire sources of supply.

86. The cigar manufacturer has a somewhat wider choice for the “ fillers ” of cigars. Jamaica has succeeded in producing a tobacco well suited for this purpose, comparing favourably in aroma with Cuban and Brazilian tobaccos. The amount of moisture in the Jamaican leaf is reported to handicap its extended use. An opportunity would appear to exist for Jamaica to replace some of the imports now obtained from Cuba. The trade, however, is only likely to develop slowly, and would require care and close study of the market, for the cigar smoker is extremely critical in his selection of cigars. Empire supplies of “ fillers.”

XXIX.—THE TRADE IN IMPORTED CIGARS.

87. About one-third of the total number of cigars consumed in the United Kingdom are imported. In this trade foreign supplies hold a commanding position. Eighty per cent. of the total imports in 1927 came from Cuba. The Empire contribution was ten per cent., supplied by India and Jamaica. The imports from India were nine times those from Jamaica. The Indian cigar comes into direct competition with the Cuban only to a limited India largest Empire exporter.

extent. There are two classes of Indian cigars imported. The naked Indian cheroot, of which the Burman is a "strong" example, and the milder, brightly banded cigar. The first appeals to those who have learnt to appreciate it in the East, and the second to those who desire a cigar at prices below those of the most expensive luxury article.

XXX.—CIGAR CONSUMPTION IN THE UNITED KINGDOM.

Decreased
consumption
in the
United
Kingdom.

88. The figures of the Census of Production of 1924 afford the most recent data for estimating the output of cigars manufactured in the United Kingdom, and permit of comparison with similar figures of 1907 (see paragraph 25). The diagram in Appendix VI shows the total imports, and the retained imports for each year from 1907 to 1927, distinguishing those from the Empire. These tables show that there has been a very heavy fall in the consumption of cigars. Whereas 3,730 thousand lbs. of cigars were manufactured in the United Kingdom in 1907 and 1,433 thousand lbs. of imported cigars were also retained for local consumption, 17 years later local production had fallen to 1,434 thousand lbs. and retained imports to 694 thousand lbs. The total consumption had thus fallen from some five million to some two million lbs. Even approximate figures are not available to compare the consumption in the United Kingdom with those of other countries, but it is a matter of common observation that the consumption is below that of many European countries and also of the United States. The decrease is general and has affected all branches of the cigar trade in approximately the same degree. In the five years before the war and also in the five years ending 1927, nine per cent. of the imports of cigars came from Empire sources, but whereas net imports of manufactured cigars had fallen in 1924 by 51 per cent. as compared with those of 1907, the output of cigars manufactured in the United Kingdom had fallen by 61 per cent.

Decrease
occurred
during the
war years.

89. The diagram in Appendix VI shows that the change in habit of the British public occurred in the war years. From 1907 to 1913 the quantity of imported cigars retained each year for consumption in the United Kingdom was falling only very slowly—from 1,429,000 lbs. to 1,306,000 lbs. in seven years. With the war came a sudden change. In 1917 only 361,000 lbs. of imports were retained for local consumption. Immediately after the war importers and dealers obviously expected a revival of demand, for clearances in 1919 jumped to just over the million. But this was not realised, for in the succeeding years clearances fell rapidly, and from 1922 the trade has settled down to a uniform rate of about 600,000 lbs. a year. At this figure it has remained very steady for the last six years. The Empire share of it has also remained steady at a little over 50,000 lbs. a year.

90. Both manufacturers and importers of cigars attribute part at least of the change in habit which has taken place to the heavy increase in duties on cigars. The duties on all leaf tobacco and on imported cigars were increased in the same proportion in 1915, in 1917 and in 1918. It is possible that the duties have checked consumption to some extent, but increases on both leaf and cigars have been in the same proportion, and the diagram in Appendix VI shows that the fall in consumption was already marked before 1915, when the first increase in duties during the war was imposed. Between 1913 and 1915 the fall in clearances of imported cigars was 335,000 lbs., which accounts for nearly half the fall in total consumption between the present time and pre-war days. It looks as if a major cause in the decrease in cigar consumption is due to an actual change in habit which had begun before the war and was accelerated by the conditions induced by the war.

Increase in duties not altogether responsible for reduction.

91. The duties on cigars, like those on leaf tobacco, are specific and based on weight. As a consequence they bear more heavily on the cheaper cigar, that is, on those imported from India, than on the more expensive cigars imported from foreign sources. The Indian cigar, on the other hand, has an advantage in the preference. It has been represented that even so, the retail price of Indian cigars is too high for a cigar which would normally find most of its sale in the cheaper markets. Importers of Indian cigars, whilst they would prefer their products to be taxed on an *ad valorem* basis, have stated that, if such a change in the basis of taxation were made in regard to cigars, it would become necessary to apply it also to imports of tobacco leaf. The determination of the value of leaf for purposes of duty at time of importation would clearly present great difficulties.

Effect of duties on price of cigars.

92. The fall in consumption of cigars has now been checked, and though a revival to pre-war standards is improbable, yet it is not impossible that the consumption of cigars will slowly expand beyond its present low level. The British industry is endeavouring to cater for those who have become accustomed to "short smokes" by placing on the market diminutive cigars, and the chief Indian manufacturers also have their brands of small, mild cigars. If the Empire Marketing Board prepare and distribute lists of Empire pipe tobaccos and cigarettes in the manner we have suggested, we consider that Empire cigars should also be included.

Fall in consumption now checked.

XXXI.—SUMMARY OF CONCLUSIONS

93. We summarise our conclusions as follows:—

1. In the last two decades there has been a rapid increase in the production and consumption of tobacco in the world generally.

2. In the United Kingdom the average consumption has risen from 2.4 lbs. a head of the population in 1914 to 3.4 lbs. a head in 1927, but it is still smaller than the consumption per head in some foreign countries, as, for instance, Belgium, Germany and the United States.

3. It must not, however, be assumed that the increase of consumption in the United Kingdom will continue at the same rapid rate as of late, for there is not now room for such great changes as the recent extension of cigarette smoking and the widespread adoption of the smoking habit by women.

4. Partly, at any rate, as the result of the customs preference granted to Empire tobaccos in the United Kingdom, the proportion of imports of tobacco from the Empire has risen from 3 per cent. of the total imported in 1921 to 18 per cent. in 1927.

5. Some 80 per cent. of the total imports of tobacco to the United Kingdom are still drawn from the United States.

6. There has been a very great change in the smoking habits of the people of the United Kingdom in recent times, for, whereas in 1907 only 24 per cent. of the tobacco was smoked in the form of cigarettes, in 1924 that percentage had risen to 58. The people of the United Kingdom are to-day, apparently, the greatest cigarette smokers in the world.

7. The Empire now sends to Great Britain some 37 per cent. of the pipe tobacco smoked there, but only 1 per cent. of the cigarette tobacco.

8. The greatest opportunity before Empire producers of Tobacco for the United Kingdom market is therefore in cigarette tobaccos.

9. Certain parts of the Empire are now specialising on cigarette tobacco, notably Southern Rhodesia, from which country 75 per cent. of the tobacco imported into the United Kingdom is now of cigarette type.

10. Owing to initial successes growers in several parts of the Empire, especially in those countries in which tobacco is grown for export, have been induced to produce crops in excess of the immediate demand as yet developed in the United Kingdom for their tobacco.

11. It is necessary, therefore, that in the immediate future there should be some curtailment of planting in those countries, but this should not go too far, for manufacturers must be able to depend on a steady supply, and alternate gluts and scarcities prevent a continuous campaign to accustom the smoker to tobaccos from new sources.

12. The chief requisite is a gradually increasing supply of high quality, and to this end we believe producers' organisations carefully conducted and taking the long view, can greatly contribute.

13. A most important matter is that there should be uniformity of quality throughout the same package.

14. While we think Empire tobaccos are now in many cases quite good enough to win a market on their own merits, efforts should not be relaxed to adapt their flavour to the established taste of the public, and to this end we recommend centralized investigation into the nature of "aroma," a matter which apparently is not yet understood by scientific men.

15. Although cigar smoking has decreased of late in the United Kingdom we do not regard a limited revival as improbable, especially in the case of mild cigars. This is a matter of importance to Indian and North Borneo producers.

16. We have made proposals in paragraphs 74 and 77 in regard to advertising and to the part which the Empire Marketing Board might play therein.

17. We have made proposals in paragraphs 80 and 81 for the more efficient interchange of information on the development of tobacco cultivation in the Empire and on the growth of consumption of Empire tobaccos in the United Kingdom.

H. J. MACKINDER (*Chairman*).

ALGERNON F. FIRTH	}	United Kingdom.
THOMAS ALLEN		
J. S. WARDLAW-MILNE		
F. N. BLUNDELL		
HARRISON WATSON	}	Canada.
W. A. WILSON		
J. A. COOPER	}	Commonwealth of Australia.
F. L. McDUGALL		
JAMES PARR	}	New Zealand.
R. S. FORSYTH		
J. H. DIMOND		Union of South Africa.
J. W. DULANTY		Irish Free State.
VICTOR GORDON	}	Newfoundland.
WILLIAM C. JOB		
F. J. NEWTON		Southern Rhodesia.
ATUL C. CHATTERJEE	}	India.
M. M. S. GUBBAY		
G. GRINDLE	}	Colonies and Protectorates.
J. H. BATTY		
D. T. CHADWICK (<i>Secretary</i>).		

10th July, 1928.

APPENDIX I.

GROSS IMPORTS OF UNMANUFACTURED TOBACCO INTO THE UNITED KINGDOM 1919 TO 1927.

Quantity in 1,000 lbs. Value in £1,000.

Country whence consigned.	1919.	Per cent.	1920.	Per cent.	1921.	Per cent.	1922.	Per cent.	1923.	Per cent.	1924.	Per cent.	1925.	Per cent.	1926.	Per cent.	1927.	Per cent.
Canada Quantity	140	—	215	—	174	—	855	—	956	—	1,787	—	1,859	—	4,914	—	5,812	—
Value ...	18	—	32	—	18	—	67	—	68	—	142	—	143	—	421	—	539	—
Union of S. Africa Quantity	258	—	928	—	11	—	59	—	51	—	197	—	24	—	445	—	249	—
Value ...	22	—	85	—	—	—	2	—	4	—	10	—	2	—	60	—	17	—
British India Quantity	3,844	—	9,590	—	1,415	—	3,935	—	4,575	—	8,412	—	7,785	—	11,856	—	8,482	—
Value ...	180	—	892	—	46	—	182	—	169	—	314	—	310	—	497	—	871	—
Rhodesia Quantity	126	—	156	—	175	—	360	—	367	—	726	—	1,081	—	2,305	—	11,088	—
Value ...	22	—	30	—	16	—	50	—	81	—	50	—	86	—	227	—	1,008	—
Nyasaland Quantity	5,891	—	5,506	—	4,777	—	6,735	—	5,891	—	6,882	—	7,070	—	9,084	—	13,782	—
Value ...	612	—	569	—	871	—	480	—	409	—	484	—	490	—	668	—	1,079	—
British North Borneo Quantity	1,678	—	1,579	—	739	—	593	—	894	—	840	—	830	—	895	—	1,302	—
Value ...	336	—	234	—	142	—	123	—	156	—	176	—	156	—	165	—	248	—
Other Empire Quantity	2,020	—	236	—	169	—	117	—	161	—	429	—	322	—	297	—	284	—
Countries Value ...	355	—	43	—	26	—	11	—	6	—	37	—	24	—	17	—	17	—
Total Empire Quantity	13,952	4·0	18,210	8·3	7,460	3·3	12,654	6·8	12,895	7·5	19,273	10·6	18,921	10·0	29,795	15·1	40,949	18·4
Value ...	1,545	—	1,885	—	619	—	865	—	833	—	1,213	—	1,211	—	2,050	—	3,279	—
United States Quantity	315,874	90·5	177,449	81·0	214,691	94·3	166,755	90·2	154,799	89·5	156,891	86·0	162,659	86·1	161,348	81·9	177,442	79·9
Value ...	32,795	—	27,563	—	20,789	—	15,863	—	13,592	—	14,084	—	13,430	—	13,683	—	14,168	—
Other Foreign... .. Quantity	19,021	5·5	23,325	10·7	5,620	2·4	5,381	3·0	5,284	3·0	6,187	3·4	7,341	3·9	5,999	3·0	3,872	1·7
Value ...	3,376	—	3,818	—	804	—	702	—	535	—	745	—	835	—	665	—	887	—
Total Foreign... .. Quantity	334,895	—	200,774	—	220,311	—	172,166	—	160,083	—	163,078	—	170,000	—	167,347	—	181,314	—
Value ...	36,671	—	31,381	—	21,593	—	16,565	—	14,127	—	14,779	—	14,265	—	14,348	—	14,555	—
Total { Quantity	348,847	100·0	218,984	100·0	227,771	100·0	184,790	100·0	172,978	100·0	182,351	100·6	183,921	100·0	197,142	100·0	222,263	100·0
Value ...	83,216	—	82,766	—	22,212	—	17,480	—	14,960	—	15,992	—	15,476	—	16,398	—	17,834	—

APPENDIX II.

RE-EXPORTS OF UNMANUFACTURED TOBACCO FROM THE UNITED KINGDOM FOR THE YEARS 1919 TO 1927.

		Quantity in 1,000 lbs.				Value in £1,000.				
		1919.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.
Canada ...	Quantity	+	+	11	1	98	299	169	3	—
	Value ...	+	+	1	+	3	13	5	+	—
British India...	Quantity	563	359	3,125	1,263	617	1,068	373	202	32
	Value ...	27	19	130	49	17	38	12	6	2
Rhodesia ...	Quantity	48	2	31	20	16	437	6	9	42
	Value ...	10	+	4	1	1	24	1	1	4
Tanganyika ...	Quantity	987	476	141	449	633	1,023	214	48	73
	Value ...	135	49	10	18	37	61	12	3	5
British North Borneo	Quantity	130	276	335	129	17	144	134	21	89
	Value ...	26	68	69	33	4	61	53	8	25
United States...	Quantity	3,664	2,390	4,610	2,934	7,929	11,616	8,480	9,205	7,978
	Value ...	324	279	506	224	467	845	658	651	569
Other Countries	Quantity	4,002	5,819	8,084	6,339	5,424	4,888	3,008	1,525	1,511
	Value ...	566	1,044	878	596	467	422	294	174	194
Total ...	Quantity	9,390	9,322	16,337	11,135	14,634	19,475	12,383	11,013	9,725
	Value ...	1,088	1,459	1,598	921	996	1,464	1,035	843	799

+ Less than 500 lbs. or £500.

APPENDIX III.

EXPORTS OF MANUFACTURED TOBACCO FROM THE UNITED KINGDOM FOR THE YEARS 1924 TO 1927.

Quantities in 1,000 lbs. Values in £1,000.

		1924.	1925.	1926.	1927.
Cigarettes ...	Quantity	14,817	16,766	19,881	22,003
	Value	5,568	6,052	7,125	7,544
Cigars ...	Quantity	27	33	31	36
	Value	27	31	29	34
Cavendish or Negrohead }	Quantity	2,747	2,970	2,781	2,435
	Value	770	826	767	673
Other sorts...	Quantity	440	381	339	342
	Value	127	111	105	106
Snuff for human use }	Quantity	73	17	19	18
	Value	14	3	3	4
Total ...	Quantity	18,104	20,167	23,051	24,834
	Value	6,506	7,023	8,030	8,361

APPENDIX IV.

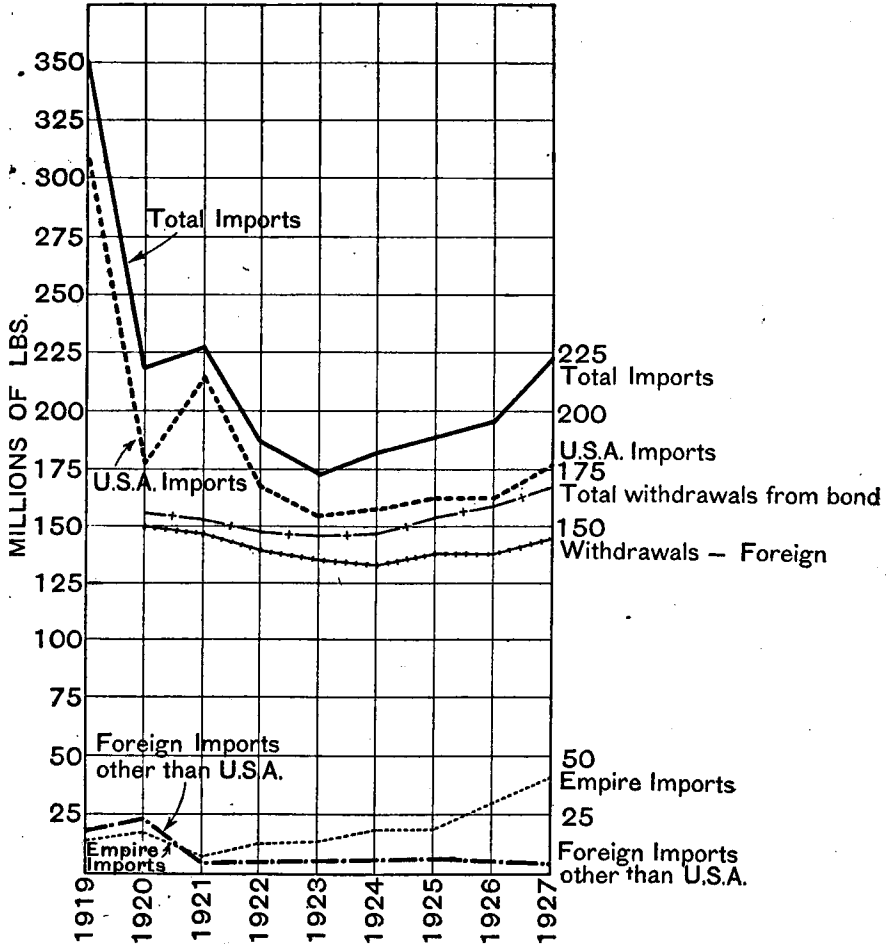
CLEARANCES OF MANUFACTURED TOBACCO FROM BOND IN THE UNITED KINGDOM (1,000 lbs.).

—	Net quantity entered for Home consumption.			Quantities on which drawbacks given.						Net quantities retained for Home consumption.			
	Total.	Full rate.	Preferential rate.	As exported manufactured tobacco.			As Offal.			Total.	Full rate.	Preferential rate.	Per cent. Preferential to total.
				Total.	Full rate.	Preferential rate.	Total.	Full rate.	Preferential rate.				
1919	102,848	—	—	5,883	—	—	6,560	—	—	90,405	—	—	—
1919	59,037	57,491	1,546	2,932	2,906	26	3,684	3,658	26	52,421	50,927	1,494	2·85
1920	155,073	150,316	4,757	6,020	5,812	208	11,355	11,010	345	137,698	133,494	4,204	3·05
1921	152,215	145,812	6,403	2,321	2,231	90	10,999	10,607	392	138,895	132,974	5,921	4·26
1922	146,927	138,515	8,412	2,453	2,401	52	11,797	11,294	503	132,677	124,820	7,857	5·92
1923*	145,084	135,295	9,789	4,329	4,236	93	12,498	11,714	784	128,257	119,345	8,912	6·95
1924	145,892	133,987	11,905	4,671	4,550	121	13,320	12,282	1,038	127,901	117,155	10,746	8·40
1925	153,268	138,687	14,581	4,856	4,767	89	15,821	14,517	1,304	132,591	119,403	13,188	9·95
1926	157,864	138,018	19,846	6,420	6,341	79	16,823	14,937	1,886	134,621	116,740	17,881	13·28
1927	166,980	144,187	22,793	12,067	11,976	91	17,625	15,229	2,396	127,288	116,982	20,306	14·90

* Before 1st April, 1923, the figures relate to Great Britain and Ireland ; since that date to Great Britain and Northern Ireland only.

APPENDIX V.

DIAGRAM SHOWING GROSS IMPORTS OF UNMANUFACTURED TOBACCO INTO THE UNITED KINGDOM FOR THE YEARS 1919 TO 1927.



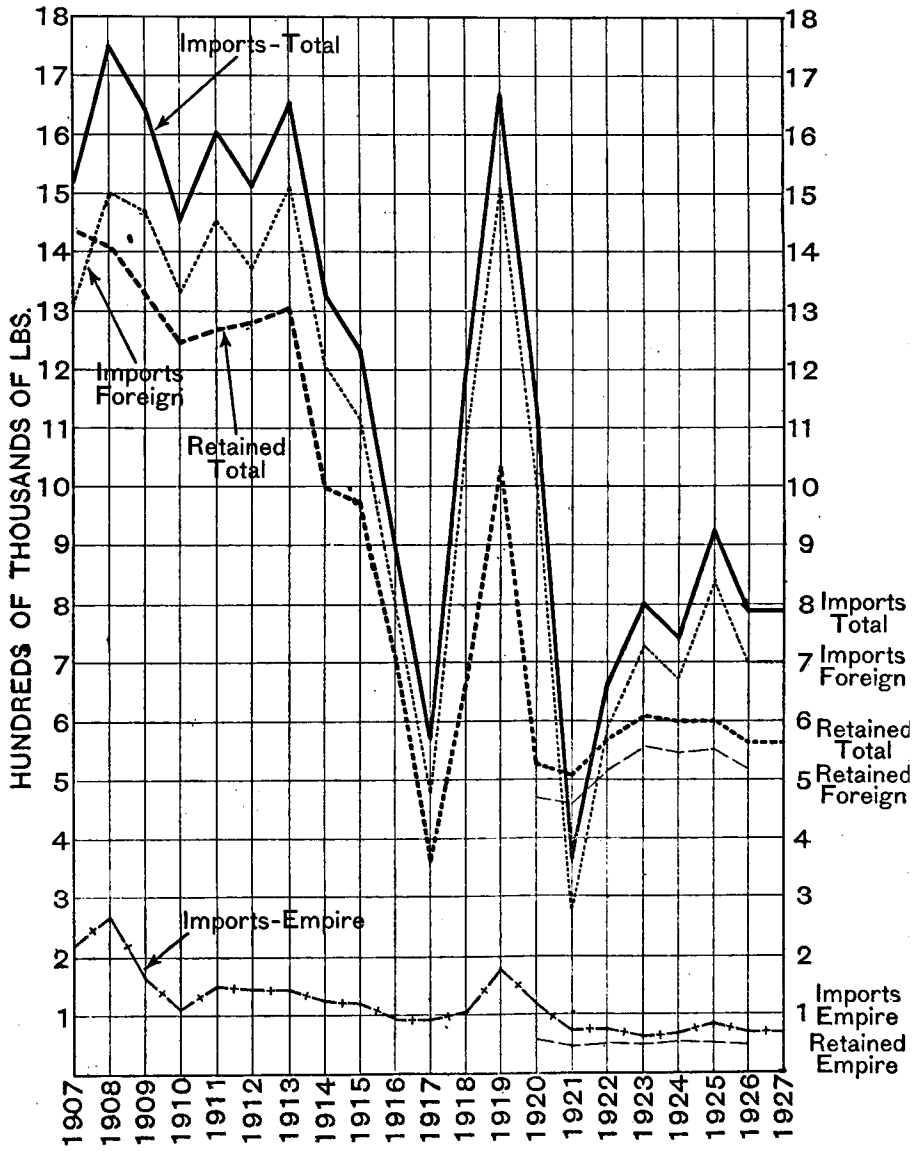
APPENDIX VI.

QUANTITIES OF CIGARS IMPORTED AND OF CIGARS RETAINED FOR CONSUMPTION IN THE UNITED KINGDOM—1907 TO 1927.

Cigar Imports: Cigars retained for consumption
in the United Kingdom:—

Total.....	Total.....
Empire }	Empire }
Foreign } -+ -+ -+ -+	Foreign } - - -

Cigars retained for consumption in the U.K. are not separable into Empire and Foreign previous to the grant of the preference in 1919



REPORTS OF THE IMPERIAL ECONOMIC COMMITTEE

on the Marketing and Preparing for Market of
Foodstuffs produced within the Empire.

Cmd. 2493.	First Report. GENERAL	...	9d.	(9½d.)
Cmd. 2499.	Second Report. MEAT	...	9d.	(9½d.)
Cmd. 2658.	Third Report. FRUIT	...	4s. 6d.	(4s. 10d.)
Cmd. 2725.	Fourth Report. DAIRY PRODUCE	...	1s. 0d.	(1s. 1½d.)
Cmd. 2934.	Fifth Report. FISH	...	6d.	(7½d.)
Cmd. 3015.	Sixth and Seventh Reports. POULTRY AND EGGS, AND HONEY	... ..	1s. 0d.	(1s. 2d.)
—				
Cmd. 3018.	Eighth Report. THE FUNCTIONS AND WORK OF THE IMPERIAL ECONOMIC COMMITTEE	...	6d.	(7d.)

All prices are net; those in parentheses include postage.

Obtainable from the sale offices of
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REPORTS OF THE IMPERIAL ECONOMIC COMMITTEE

TENTH REPORT.

TIMBER.

X9(JA): 51.1-3.N25L-

*Presented by the Secretary of State for Dominion Affairs
to Parliament by Command of His Majesty
August, 1928*

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Note.—The expenses of the Committee in connection with the preparation of this Report amount to £450. In addition, the cost of printing and publishing the Report is £101.

REPORT
ON THE
**METHODS OF PREPARING FOR MARKET AND
MARKETING WITHIN THE UNITED KINGDOM
OF RAW MATERIALS PRODUCED WITHIN
THE EMPIRE.**

TENTH REPORT.—TIMBER.

- To THE RIGHT HONOURABLE STANLEY BALDWIN,
Prime Minister and First Lord of the Treasury.
- To THE RIGHT HONOURABLE W. L. MACKENZIE KING,
C.M.G.,
Prime Minister of the Dominion of Canada.
- To THE RIGHT HONOURABLE S. M. BRUCE, M.C.,
Prime Minister of the Commonwealth of Australia
- To THE RIGHT HONOURABLE J. G. COATES, M.C.,
Prime Minister of the Dominion of New Zealand.
- To GENERAL THE HONOURABLE J. B. M. HERTZOG,
Prime Minister of the Union of South Africa.
- To WILLIAM T. COSGRAVE, Esq.,
President of the Executive Council, Irish Free State.
- To THE HONOURABLE W. S. MONROE,
Prime Minister of Newfoundland.
- To THE HONOURABLE H. U. MOFFATT, C.M.G.,
Premier of Southern Rhodesia.
- To THE RIGHT HONOURABLE THE EARL OF BIRKENHEAD,
Secretary of State for India.
- To THE RIGHT HONOURABLE L. C. M. S. AMERY,
Secretary of State for Dominion Affairs and for the
Colonies.

TIMBER REPORT.

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REPORT.

We, The Imperial Economic Committee, appointed by the Governments of the United Kingdom, the Dominions, India, and the Colonies and Protectorates, acting under a resolution of the Imperial Conference of 1926, beg leave to present to the Governments of the Empire this our tenth report—the preparing for market and marketing of Timber.

I.—INTRODUCTION.

1. We have examined a number of witnesses representing producing, marketing and manufacturing interests; we have further had the advantage of consultation with experienced officials both of the United Kingdom and overseas Governments, and with men of scientific eminence. We thank all those who have appeared before us for their skilled assistance.

Witnesses.

2. Under our new Standing Orders we have adopted a procedure whereby a certain portion of the detailed inquiry is conducted before a Sub-Committee of our number to whom may be added, if considered desirable, as members of the Sub-Committee and not merely as witnesses, persons not members of the Imperial Economic Committee but possessed of expert knowledge of the subject under inquiry. In this case we have to thank Sir George L. Courthope, Bart., M.C., M.P., a member of the Forestry Commission of Great Britain, and Sir Peter Clutterbuck, C.I.E., C.B.E., formerly Inspector General of Forests, India, and now Chairman of the Empire Forestry Association for acting in this capacity.

Sir George
Courthope
and Sir
Peter
Clutterbuck

3. The Imperial Conference of 1926 directed the Imperial Economic Committee to prepare for the consideration of Governments a list of raw materials suitable for inquiry on the lines of the Committee's reports dealing with foodstuffs. In 1927, the Governments of the Empire agreed that we should prepare such a report on timber.

Authority
for Report.

During the discussions at that Imperial Conference, the Prime Minister of Canada had cited Forest products as a subject in the marketing of which Canada was especially interested.

The quinquennial meeting of the British Empire Forestry Conference is to be held in Australia in the autumn of the present year. That Conference will be attended by delegates from the forestry departments of all Governments of the Empire. The latest information available on the forest resources of different parts of the Empire and, indeed, of the world will be reviewed.

The measures being taken for the re-afforestation, conservation, management, and exploitation of the Empire's forests will also be considered. This was an additional reason for the preparation of a report at the present time on the marketing of Empire timbers in the United Kingdom.

Scope of Report.

4. We have excluded from our inquiry the wide range of articles frequently described as "minor forest produce," including grasses, canes, gums and tanning materials. We have only referred to the imports into the United Kingdom of manufactured wood, of wood pulp and of cellulose for the purpose of indicating the total demand made by the United Kingdom on the sources of wood supplies. We took some evidence on the import trade in manufactured wood, but found that this raised very large issues, an examination of which would have prevented the production of this report in time for the forthcoming Forestry Conference. We therefore deemed it advisable to confine this report to the raw material—timber. The timber trade is a very important one and the Empire resources are extensive and varied.

Division of timber into "Softwoods" and "Hardwoods."

5. By the range of its uses, timber falls into two main divisions, known as the "softwoods" and "hardwoods." The line between the two, neither commercially nor botanically, is a rigid one, but the distinction is sufficiently definite to be of direct practical importance.

Soft woods are chiefly used in ordinary building construction, for pit props, for general utility purposes and in the manufacture of wood pulp. Hardwoods find their main uses in portions of buildings subjected to hard usage, such as flooring, and for general purposes for which their qualities of hardness and durability render them peculiarly suitable, whilst, in many cases on account of their beauty, they are valued in the furniture trades and for decorative work such as panelling.

The soft woods of commerce are mainly derived from coniferous trees and the hardwoods from broadleaved trees.

II.—FOREST RESOURCES.

British Empire Forestry Conference of 1928.

6. As a result of the British Empire Forestry Conference held in Canada in 1923, Forest Authorities in Empire countries have been requested to prepare in a common form for the Conference of 1928, estimates of the total forest resources of their countries and to distinguish the areas containing merchantable timber.* Thus it is anticipated that in the autumn of the current year

* By merchantable forest is meant forest which is exploitable under current conditions or conditions which are likely to obtain within a reasonable period of time (say 10 years).

information on the timber resources of the Empire will be forthcoming more complete than any at present available. In view of this fact we do not propose to deal in this report with the statistics of forest resources nor with their relation to the demand for commercial timbers.

7. It is sufficient to state that Forestry authorities all the world over regard the world supplies of softwoods with anxiety. We must, however, record the fact that in the course of our inquiry we have not found this feeling of apprehension shared generally by the members of the timber trade in the United Kingdom. Adequate supplies have always been readily available in the past and it is possible that the trade has been lulled into a feeling of security for the future which the world position may not warrant. The commercial point of view is that a scarcity of supplies will adjust itself by an increase of prices which will bring within an economic radius fresh forest areas hitherto untouched.

Adequacy of the supply of softwoods and hardwoods.

8. The outlook is more fully realised by those concerned with organized forest management and conservation. Although the examination of forest resources is not within the purview of this report, we cannot too strongly urge the necessity for systematic investigation of the rate at which the softwood resources of the world are being depleted. If the interest of the timber trade and of the general public is to be enlisted for the conservation and development of the Empire forest resources and the lesser known varieties of Empire grown timber are to secure wider utilization, statements regarding the world and Empire position must be supported by statistics based on precise knowledge and not on information of a general character.

Need for more detailed information.

It may be found that it is necessary to make arrangements for the systematic collection and revision of statistics of world and Empire consumption in relation to supplies. We do not doubt that this important and, indeed, vital question will be fully considered at the forthcoming British Empire Forestry Conference.

III.—IMPORTS INTO THE UNITED KINGDOM.

9. The imports into the United Kingdom in 1927 of timber, manufactured wood and wood pulp were valued at £67 millions. Importation of timber alone came to £50 millions, of which some 90 per cent. was derived from foreign sources. Among the many raw materials imported into the United Kingdom, this high figure was only surpassed by imports of wool and cotton.

Total value.

10. According to the Trade returns of the United Kingdom the values of the imports into the United Kingdom of timber, manu-

Imports of timber, manufactured wood and wood pulp.

factured wood and wood pulp in the years 1924, 1925, 1926 and 1927 were as follows :—

Value, in thousands of £.

	1924.	1925.	1926.	1927.
<i>Unmanufactured Wood and Timber.</i>				
Softwoods	38,601	34,172	29,410	38,985
Miscellaneous (soft and hard)...	3,521	3,270	1,903	1,930
Hardwoods	8,948	9,054	7,946	8,756
Total value of imports ...	51,070	46,496	39,259	49,671
Total value of re-exports...	703	708	681	741
Total value retained in United Kingdom.	50,367	45,788	38,578	48,930
<i>Manufactured Wood and Timber.</i>				
Total value of imports ...	5,371	6,226	6,799	7,314
Total value of re exports...	475	513	543	561
Total value retained in United Kingdom.	4,896	5,713	6,256	6,753
<i>Pulp of Wood.</i>				
Total value of imports ...	9,766	9,310	10,173	11,000
Total value of re-exports...	45	48	22	37
Total value retained in United Kingdom.	9,721	9,262	10,151	10,963

Thus the total values of the imports of these classes of wood into the United Kingdom were :—

	£
1924	64,984,000
1925	60,763,000
1926	54,985,000
1927	66,646,000

It will be seen that the disorganisation of industry in 1926 directly affected the import trade in that year, but that the imports of wood pulp continued to grow, owing no doubt to the fact that the demand for newsprint and artificial silk was unaffected. If industry generally now revives the total annual value of the imports of wood and wood products into the United Kingdom should in the near future amount to £70 millions.

Proportion of "home-grown" to imported supplies.

11. It is more difficult to form an estimate of the quantity of locally grown timber which goes into use in Great Britain. At the request of the Board of Trade the Forestry Commission in 1924 carried through a careful census of the production of "Home grown" timber in that year. The total value felled

in Great Britain was £2,036,000. This is very small compared with the value of the imports, but the comparison is misleading, since the home figures refer only to the value of the timber felled, whereas the import figures include large amounts of sawn or converted timber and even some manufactured wood. A fairer indication of the extent to which locally grown timber enters the market is furnished by the following table in which both the "home grown" and the imports (excluding manufactured wood) are expressed in the terms of "standing timber."

Figures in millions of cubic feet.

	Conifers.	Hardwood.	Total.
Net imports in 1924 of timber and wood pulp (in terms of standing timber).	906.4	74.7	981.1
"Home" production in 1924 of woods of all descriptions.	30.9	25.1	56.0
Total	937.3	99.8	1,037.1
Percentage of locally grown timber to total.	3.3	25.2	5.4

12. Consumption has probably increased somewhat since 1924. Local supplies have for the time probably declined owing to the severe cutting which took place during the war years. On this assumption it may be taken that Great Britain and Northern Ireland now consume annually about 1,100 million cubic feet of standing timber, of which approximately 90 per cent. are conifers or softwoods and under 10 per cent. are hardwoods. "Home grown" timber constitutes 3 per cent. of the supply of softwoods and about one quarter of the supply of hardwoods.

Total United Kingdom demand.

13. It is convenient at this point to postpone the further treatment of the problems connected with "home grown" timber until we have described the import trade.

14. It will have been noticed that the value of the unmanufactured wood and timber imported in 1927 nearly equalled that of 1924. The quantity, however, as distinguished from value was much greater in 1927 than in 1924. The average declared value per load* of sawn soft wood dropped from £5 6s. 10½d. in 1924 to £4 17s. 3¾d. in 1925, £4 11s. 6d. in 1926 and £4 13s. 9d. in 1927.† The fall in declared values between 1924 and 1927 is thus 12.2 per cent. In the same period, prices of iron and steel fell by 16.1 per cent. Particulars of the values and quantities of imports for the year 1927 are given in Appendix I.

Fall in prices between 1924-1927.

* A load=50 cubic feet.

† The average declared value rose in the first six months of 1928 to £4 16s. 5½d.

Empire
share of
imports.

15. The value of the various classes of timber imported from Empire and foreign sources for the year 1926* is as follows :—

Thousands of £.

	Empire sources.	Foreign sources.	Total.
Softwoods	1,722	27,688	29,410
Miscellaneous (soft and hard) ...	68	1,836	1,904
Hardwoods	2,276	5,669	7,945
Total	4,066	35,193	39,259

Thus, 94 per cent. of the imports of softwoods and 96 per cent. of those classed as miscellaneous which are mostly softwoods, were drawn from foreign countries. The Empire, however, supplied 30 per cent. of the imports of hardwoods. If teak be eliminated from the statistics in regard to hardwoods the position is even less satisfactory, for nearly one-half of the imports of hardwoods from Empire sources consists of teak, of which the Empire through India possesses practically a monopoly.

IV.—PAST EFFORTS TO ENCOURAGE THE USE OF EMPIRE TIMBERS.

Merchant
firms.

16. The encouragement of a wider use of Empire timbers, especially of those only little known, demands organised and continuous effort. Such success as has so far been attained is very largely due to the initiative of a comparatively few merchant firms. Two public organisations are at present interested in extending the use of Empire timbers in the United Kingdom, namely, the Empire Forestry Association and the Imperial Institute.

Empire
Forestry
Association.

17. The Empire Forestry Association is of recent origin. It was incorporated by Royal Charter on 1st November, 1921. It is a voluntary Association supported by those interested in forestry in all parts of the Empire and thus forms a valuable means for the interchange of information and experience. Amongst its objects is the fostering of public interest in the merits of Empire-grown timbers suitable for commercial purposes.

Imperial
Institute.

18. One of the functions of the Imperial Institute is to promote the use of Empire products, and in pursuance of this general purpose an Advisory Committee on Timbers was formed and has been in existence since 1916. This Committee is

* The latest year for which particulars of countries of origin of all classes of imported timber are available.

engaged in a survey of the lesser known Empire timbers and in bringing to the notice of the trade those species which it recommends for industrial use. Within the somewhat narrow limits of the equipment available, the testing of Empire-grown timbers, with a view to the determination of their physical and mechanical properties and their working qualities, is also undertaken at the Imperial Institute.

19. At the meeting in London of the British Empire Forestry Conference in 1920 recommendations were made to the various Governments of the Empire for the conduct of research both into the growth of forests and into the utilization of timber. So far as Great Britain was concerned, the recommendations included on the one hand the establishment of a research institute to deal with the problems of growth, and on the other hand a research organisation, which should include a central institute, to investigate the utilization of timber and of forest products.

Recommendations of the British Empire Forestry Conference, 1920.

20. In pursuance of these recommendations, the Imperial Forestry Institute was established at Oxford in 1924, in close connexion with the University, for the higher training of Forestry Officers, the provision of special and "refresher" courses for Officers already serving, and the conduct of research into forest production.

Imperial Forestry Institute, Oxford.

21. Investigation into the utilization of timber and of forest products was entrusted to the Department of Scientific and Industrial Research, which in 1925 established a fully-equipped Forest Products Research Laboratory at Princes Risborough in Buckinghamshire. The work of this laboratory covers the whole range of forest products research, as may be seen from the following list of the sections of the Laboratory organisation and their main purposes.

Forest Products Research Laboratory, Princes Risborough.

Group I.

i. Wood Technology :—

(a) Correct identification.

(b) Anatomical structure for rough classification of uses.

ii. Seasoning :—

(a) Basic principles.

(b) Practical application.

Group II.

i. Timber Mechanics :—

(a) Comparative strength of timbers.

(b) Tests on structural sizes to determine influence of defects.

(c) Special tests for specific uses.

ii. Wood Preservation :—

(a) Durability; in natural state and after antiseptic treatment.

(b) Toxicity of antiseptics.

iii. Wood Working :—

Sawing, machining and finishing tests.

Group III.

i. Pathology :—

(a) Decay caused by fungi.

(b) Attacks by insects.

ii. Chemistry of Wood :—

(a) Wood analysis.

(b) Derivatives of wood.

(c) Chemical changes due to seasoning, or attack by fungi and insects.

Group IV.

Utilisation :—

(a) Liaison with industry.

(b) Industrial investigations to confirm uses and to suggest markets.

Organisation
of the
Laboratory
at Princes
Risborough.

22. The Laboratory at Princes Risborough is organised on a national and not at present on an Empire basis. Its main purpose is to promote, in the national interest, the more economical use of timber by the timber-using industries of the United Kingdom. For this purpose, the origin of the timber is a subordinate consideration, for to the timber user it is as important to avoid waste of foreign-grown timber as of Empire-grown timber.

The services of Princes Risborough are primarily for the assistance of the timber-using industries in the United Kingdom, but investigations of a wider character are also conducted on behalf of the Forestry Commission and of other timber growers in the United Kingdom.

V.—TRADE ORGANIZATION IN IMPORTED TIMBER.

Exporter
and agent.

23. On its way from the forest to the point of consumption in the United Kingdom, timber passes through certain well recognised trade channels. The exporter or shipper in the country of origin sells through his accredited agent in the United Kingdom to the timber importer, who, in his turn, disposes of his stock to the timber-using industries and to the smaller timber merchants. Most of the timber produced in European countries is exported by sawmill owners who are themselves shippers; but in some parts of Europe and in certain other countries, timber extraction is in the hands of comparatively small firms,

and in such cases the shipper acts as collector, purchasing supplies and grading and sorting them into suitable parcels for the export trade.

Even large users of timber rarely buy in the country of production. Practically all imported timber passes through the hands of the shipper's agents who sell to importers in various parts of Great Britain and, who being in close touch with the local markets, are in a position to advise the shippers of the sizes and qualities in special demand at the various centres of consumption. With his knowledge of both parties to the trade—shippers and importers—the agent is in a position to make advances to the shipper and also at times to finance the importer by giving him credit.

24. When the timber reaches the importer it has reached the point of primary sale in the United Kingdom. The importer generally purchases the timber outright. He it is who usually carries the large stocks both to serve big consumers who may not themselves buy through agents and to supply the requirements of timber merchants.

Importer
and
merchant

One witness has given us the following graphic description of his experience of the distribution of timber after purchase by the importer.

“ A stock appeals to an importer as being cheap: the time appeals to him as being opportune; he thereupon decides to purchase the consignment, without, perhaps, having yet sold any part of it. He then sets about disposing of what he has purchased. One parcel or size may be sold to a builder, another to a toy maker, a third to a packing case maker, a fourth will go to the manufacture of cable drums, a fifth to a broomhandle manufacturer, and so on. He also sells a large proportion to the timber merchant.”

“ The last link in the organisation for the distribution of timber is the small timber merchant, who has obtained his supplies from the importer. In every town, in every district in the great cities, one finds the timber yards. Here is stacked where everyone can see it, quantities of timber in various sizes. The man who wishes to put up a chicken-run goes to the small local timber merchant and buys from him. The small builder who has an urgent job patronizes him and firms who use small quantities of timber for repairs and other odd work are his customers because he can deal with their requirements quickly and can give them mixed loads of various sizes.”

25. A new timber can only be deemed to be properly established in the trade when importers and merchants accept the risks associated with the carrying of stocks in the manner just described.

When a
timber may
be considered
established
in the trade.

26. The timber trade is divided into many sections according to the general character of the timber or of the use to which

Trade
organisa-
tions.

it is put. The importers and merchants dealing in the different classes are organised in the chief timber trading centres into trade associations—such as the Hardwood, Softwood, Home-Grown Timber, Pitwood, Plywood and Sleepers Associations—all of which are amalgamated in the Timber Trades Federation of the United Kingdom. Timber agents and brokers have their own separate organisation which is, however, affiliated to the Federation. Manufacturers such as sawmill proprietors, furniture manufacturers, builders' merchants and carriage and automobile manufacturers also have Associations. These organisations deal with matters of current trade interest and practice.

Two main divisions of the trade.

27. We propose now to consider the import trade of the United Kingdom in its main divisions—the softwoods and the hardwoods—in order to determine for each class the nature of the demand and the character of the competition which suppliers from the Empire must face in the United Kingdom market.

VI.—SOFTWOODS.

Sources of imports.

28. In paragraph 15 it was shown that of the imports of softwoods, representing in value a trade exceeding £31 millions in 1926, roughly 95 per cent. were drawn from foreign sources. Eighty per cent. of these imports were supplied from Northern Europe—Russia, Finland, Latvia, Sweden, Norway and Poland. The United States sent over 6 per cent. and the whole of the Oversea Empire contributed less than 6 per cent.

From Northern Europe.

29. Exporters of softwoods from Northern Europe find their most important market in the United Kingdom. They have accordingly made a close study of its conditions and requirements. Timber arrives graded and sawn to the sizes the markets demand; and marked in a manner which enables buyers to purchase their supplies on specification without previous inspection.

From Newfoundland.

30. The only countries in the Empire which now possess large supplies of coniferous trees within easy reach of a sea-board are Newfoundland and Canada. Except for the export of a small quantity of pitprops, Newfoundland has no share in the timber trade to the United Kingdom. In fact, Newfoundland has for the present practically ceased to be an exporter of timber to any market, either in America or in Europe. Her coniferous forests are now being used for the manufacture of paper. Already paper has gained second place in her export trade and promises soon to displace from its premier position the trade in cod fish. According to the Newfoundland trade returns the total exports of paper in the year 1st July, 1925, to 30th June, 1926, amounted to 106,000 tons valued at £1½ millions. Of this quantity 68 per cent. was sent to the United Kingdom and the balance, except for a small shipment to New Zealand, to the United States.

31. Canada must therefore be looked to for any large increase in the supplies of Empire softwoods to the United Kingdom market. Her forests lie in both the Eastern and Western Provinces. The trade with the United Kingdom in the products from the forests of Eastern Canada is of long standing. Those forests, however, consist chiefly of Spruce which is being increasingly used for the paper and pulp trade. The amount exported as timber has been declining for some years. Spruce is a useful wood for general construction purposes, but the high prices paid by pulp manufacturers are a deterrent to its extensive use in the United Kingdom, though a little of the better quality still comes into the country. Similarly White Pine from Canada has to some extent gone out of use in the United Kingdom on account of its increasing price, caused largely by the depletion of the forests in the neighbourhood of the rivers, the natural highways from the lumber camps to the ports. There are, however, supplies of Red Pine and Jack Pine which are widely used locally in place of these woods. Eastern Canada exports timber to a large and ready market in the thickly populated and highly industrialised areas in the Eastern portions of the United States and therefore has less to send to the United Kingdom.

From
Eastern
Provinces of
Canada.

32. The opening of the Panama Canal has brought the resources of the Western Canadian forests more readily within reach of the United Kingdom. British Columbia, with her vast forests of fine softwoods, is the chief lumber producing Province of Canada.

From
Western
Provinces of
Canada.

The chief varieties are Sitka Spruce, Western Hemlock and Douglas Fir. Sitka Spruce possesses strength combined with lightness, qualities which render it peculiarly suitable for aeroplane construction. Western Hemlock is useful for joinery purposes and interior construction work. The most important timber in British Columbia is, however, the Douglas Fir—known also as Oregon Pine—which grows along the Pacific Coast on both sides of the international boundary. This timber occupies a prominent place amongst the soft woods of commerce; in fact, it is reputed to supply a larger share of the world requirements of timber than any other single species.

The Douglas Fir is one of the most magnificent trees in the world. It sometimes attains a height of 300 feet with a diameter at the base of from 8 to 10 feet, though the average tree is from 80 to 100 feet high and 2 to 4 feet in diameter.

33. The size of the Douglas Fir, with its uniform growth and freedom from boughs to a considerable height from the base, enables timber of large sectional dimensions and of considerable length to be cut clear of knots, sapwood and other natural defects. Balks 100 feet and over in length and 2 feet square in section can be obtained and this makes the wood peculiarly valuable for structural purposes where timber of large dimensions is required.

Character-
istics of
Douglas fir

Owing to its durability and its resistance to decay it is useful for such purposes as railway sleepers, for piles and bridge building and for general building and construction work. The wood possesses a well-marked grain which renders it attractive for joinery and internal work. It is, in fact, a wood of wide general utility, for which an extensive market in the United Kingdom should be assured.

Method of
production
on the
Pacific coast.

34. The method of production of timber on the Pacific Coast differs in material respects from the method in European countries, in that in the latter the saw millers guided by experience of past demands cut each log to the best advantage, whereas on the Pacific Coast the chief consideration in timber conversion is speed of output. Owing to the vast wealth of timber which up to the present has always been available in British Columbia, economy in cutting has not been practised and we are informed that enormous quantities of material are cut to waste and destroyed. The result of this high rate of output, which is dependent on large saws working at high speed, is a tendency to irregular cutting which militates against the acceptance of the wood in the United Kingdom for use in better class work. The grading rules in operation on the Pacific Coast permit a certain variation in the dimensions of the sawn timber, but United Kingdom consumers are accustomed to the exact dimensions which result from the more careful cutting in the European mills and are not disposed to accept variations from their specifications. In cutting for the United Kingdom market, therefore, the timber should be of uniform size from end to end and should be cut "plump" that is, its size should be such as to allow a margin for shrinkage, so that after seasoning the dimensions are not less than those required by the specification.

Sizes usually
produced
on the
Pacific coast.

35. The saw mills of British Columbia produce primarily for the North American market and many of the usual sizes to which timber is sawn are not those in common use in the United Kingdom. It has been suggested that by arrangement, architects and engineers might be prepared to adapt their specifications to enable the usual Canadian sizes to be utilized. If progress is to be made in this direction information regarding stock sizes should be readily available. In the case where certain sizes are indispensable, these would require to be specially cut by the Canadian mills for the United Kingdom market. Though this might increase the cost of production, it might be well worth while if a larger market were thereby created.

The mechanical and physical properties of Douglas Fir have been the subject of careful investigations carried out at the Forest Products Research Laboratories of Canada and the published results might be used for the preparation of tables for use in Great Britain showing the strengths of the various dimensions of Douglas Fir in comparison with those of other softwood constructional timbers there in use. Before changing his specification of dimensions an architect or engineer would require to be

assured that he is using material of equal strength to that with which he is familiar.

36. The timbers with which Douglas Fir is in competition are not only sawn to the requirements of the United Kingdom market, but are also carefully sorted, graded and finished. They thus present a good appearance. Timber, like other commodities, is to some extent sold on appearance and the acceptance of Douglas Fir by users would be encouraged by greater care in preparation.

Need for careful preparation.

37. Doubts have been entertained in the United Kingdom regarding the possibility of creosoting Douglas Fir satisfactorily for use on the ground, as, for instance, as sleepers. These doubts, however, appear to have arisen from applying to Douglas Fir the standard treatment applicable to Baltic softwoods. Douglas Fir is very widely used for sleepers in America and has also been used for the same purpose in South Africa and India. Most of the sleepers used by the Egyptian and Sudan railways are of Douglas Fir. Thus *prima facie* grounds exist for believing that this timber should be suitable for use as sleepers in the United Kingdom. The Southern Railway Company in England have now made arrangements to test Douglas Fir sleepers creosoted in Canada with a view to determining whether the objections which have been taken to the use of Douglas Fir for this purpose arise from unsuitable treatment. These trials, combined with periodical examinations which will be made over a period of five years by the Forest Products Research Laboratory at Princes Risborough, should go far towards ascertaining the proper manner of creosoting Douglas Fir for use in the United Kingdom.

Creosoting of Douglas fir.

38. Certain softwoods possess particular properties rendering them suitable for particular purposes. An interesting example of this is Pencil Cedar, of which the United States is at present the chief source of supply to the world. That source is now being severely taxed to meet the world demand. The Empire, however, possesses in East Africa a timber of the same genus—the African pencil cedar—which in colour, odour and whittling properties is similar to the pencil cedar of the United States. It grows abundantly throughout the higher regions of Kenya and is also found in certain parts of Uganda and Tanganyika.

Pencil cedar of East Africa.

VII.—LIGHTER HARDWOODS.

39. Thus we are in the presence of two new facts in regard to softwoods; on the one hand the growing demand in the great market of the United States and, on the other hand, the availability in the United Kingdom, via the Panama Canal, of timbers from British Columbia whose properties are well known but with which consumers in the United Kingdom are not yet fully familiar. There is, however, yet another source from which timber may be drawn to serve some of the purposes for which

Possibilities of substituting lighter hardwoods for softwoods.

softwoods are now used ; certain kinds of hardwoods possess some of the qualities of softwoods.

40. The line of distinction between softwoods and the lighter hardwoods is not a rigid one. The uses to which softwoods are now put in the United Kingdom are varied and it is probable that for many of them, lighter hardwoods of Empire growth—light both in weight and colour—may be found to be suitable. Investigations which are being carried out in India already show that certain of these lighter hardwoods can be seasoned to be similar in colour and working properties to the recognised softwoods. It is also believed that several of the little known woods of Nigeria possess similar properties. This is a problem worth careful examination, for if these lighter hardwoods can be used in place of softwoods and supplied at competitive rates a large market in the United Kingdom will have been opened for many species of Empire woods at present unmarketed.

Advisability
of greater
use of lighter
hardwoods
in countries
of growth.

41. Although the supply of overseas markets of the Empire is not within the scope of this report we feel it apposite to call attention to the fact that many parts of the Empire, which at present import softwoods, have in their own forests many species of these lighter hardwoods. We have been informed that in Malaya and elsewhere special attention is being directed to the wider utilization of locally grown timbers in place of imported softwoods. The pressure on the main sources of supply of softwoods would obviously be relieved by such a policy and to the extent to which local resources were developed the Empire as a whole would be less dependent on foreign countries. We trust therefore that the Forestry Departments in the parts of the Empire into which softwoods are imported will pursue their search for local woods capable of replacing them.

VIII.—HARDWOODS.

Sources of
imports.

42. Hardwoods are imported into the United Kingdom in great variety and from many countries. The imports of hardwoods for 1926 showing the countries of export are given in Appendix II.

Oak.

43. The hardwoods in commonest use are Oak, Mahogany, Teak and Walnut. Of these Oak is imported in the largest quantities and has the widest range of uses. It may, in fact, be described as the general utility wood amongst the hardwood classes of timber. It is used in place of softwoods in much high-class constructional work ; its qualities of durability and resilience render it peculiarly suitable where strength and resistance to hard usage are required ; whilst for decorative purposes, oak holds a sentimental place in public esteem which no other wood enjoys. Oak to the value of over two million pounds is imported into the United Kingdom every year of which less than 1 per cent. is supplied from within the Empire. It is

not generally realized that three-quarters of the oak imported into the United Kingdom is grown in the United States.

44. A still more remarkable fact is that three-quarters of the Mahogany imports of sawn mahogany into the United Kingdom in 1926 came from the United States where the tree does not grow.

The chief sources of supply are Central America—British Honduras and Nicaragua—and West Africa—both British and French. The British West African Mahogany is exported to the United Kingdom mostly in the form of logs; the British Honduras mahogany reaches the United Kingdom mostly as timber sawn and converted in the United States. It has been suggested to us that sawmills should be established in British Honduras.

The supply of mahogany from Cuba is small but has a special value. It is the true Spanish mahogany of which the supplies in the world are now very short. This tree also grows in Jamaica and it appears to us that a valuable contribution might be made to the Empire resources of hardwoods if measures were taken to encourage the growth of this species of mahogany in that island. We have been informed that this question is receiving the attention of the Authorities in Jamaica.

45. Teak, of which over one million pounds worth is imported Teak into the United Kingdom each year, is obtained entirely from the countries of the East. India, particularly Burma, is the most important source of supply. Siam is at present a competitor, but we are informed that on account of overcutting in the past, supplies from that country are likely to be restricted. It is evident therefore that the Empire enjoys something approaching a monopoly in the supply of this valuable wood.

In Burma there are two orders of forest, the reserved and the unclassified. The general tendency during the past twenty or thirty years has been to work the unclassified forests without restriction with the result that production from these areas is becoming exhausted. In the reserved forests extraction is controlled by working plans and the output of teak is at present restricted to 300,000 tons a year. Future supplies are thus ensured, though any large increase in production within the next thirty years is not to be expected. There is a wide and steady market for teak in India, where it is especially esteemed on account of its immunity from the attacks of the white ant, and only some 10 per cent. of the output is shipped for use in other countries.

The limitation of the supply of teak makes an opportunity for other varieties of timbers drawn from within the Empire. Thus Douglas Fir from Canada and Kauri Pine from Australia are being tried for decks of ships, whilst Pyinkado from Burma and Greenheart from British Guiana have proved successful for under-water work such as piling and bridge construction.

46. The imports of walnut into the United Kingdom are less Walnut than those of oak, mahogany, or teak, but are nevertheless considerable. They are derived chiefly from the United States

and from France. Out of a total importation into the United Kingdom of walnut valued at £300,000 Canada contributed in 1926 some £36,000. A small quantity of "African walnut" in the log is received from Nigeria. Walnut is essentially a furniture and cabinet wood.

Other kinds.

47. In addition to supplies of oak, mahogany, teak and walnut, other hardwood are imported every year into the United Kingdom to the average value of £3,000,000 of which some 70 per cent. comes from foreign sources. Though the Empire share in this trade is as yet small the quantity and variety of the woods growing in its forests are vast. Their extent is not yet fully known. We propose to mention a few examples from various parts of the Empire of timbers which might for some purposes, at any rate, be substituted for imported foreign hardwoods such as oak and walnut.

From Canada.

48. Although Canada produces mostly softwoods she possesses many varieties of hardwoods of commercial interest, notably maple, birch, white elm and basswood. All these timbers grow extensively in Eastern Canada and are largely employed in the local woodworking industries.

Maple is widely used for flooring and there is now a regular and increasing export trade in blocks and strips to the United Kingdom for this purpose. Birch, on account of its colour and lustre, is extensively used in cabinet and furniture manufacturing and also serves in Canada for flooring. White elm grows well in Canada and provides a timber suited for general purposes where qualities of toughness and durability are required. Basswood is easily worked but of no great mechanical strength.

From Australia.

49. Australia produces many varieties of hardwoods of commercial value, the most abundant of which are of the Eucalyptus family—broad-leaved evergreens which yield timbers of great durability suitable for engineering works and for all purposes of general building construction. Although the Australian engineer, builder, cabinet maker and wheelwright can exercise a wide choice in the use of native timbers, the species of which quantities can be made available to establish a substantial export trade are more limited. The most important timbers for export are the jarrah and karri of Western Australia, of which jarrah is well-known in the United Kingdom and is used for a variety of purposes, such as flooring and sleepers. It has been computed that the value of jarrah and karri exported from Australia since the first consignment left for England in 1844 amounts to £22 millions.

Several species of the Eucalyptus yield lighter and more easily wrought timbers and the most important of these from an export point of view is "Tasmanian oak," which grows principally in Tasmania and Victoria. This has been on the United Kingdom market for some years, and its value as a substitute for foreign oak and American pitch-pine is now receiving fuller recognition.

Amongst hardwoods available for export, other than those of the Eucalyptus family, mention should be made of the Tasmanian myrtle and "Queensland walnut," Black bean and Silky oak of Queensland. Myrtle, "Queensland walnut" and Black bean are handsome decorative woods which should compete with French and American walnut in furniture and cabinet work. Silky oak is an ornamental wood for which many suitable uses, such as parquet flooring, may be found.

50. The available supplies of timber in South Africa are not large and the Dominion itself offers in most cases a sufficient local market. Two varieties, however, of hardwoods, Kamassi and Cape Box, are exported; these are of fine texture and are used for such purposes as shuttles for weaving looms, tool handles and mathematical instruments. From South Africa and New Zealand.

In New Zealand a wide variety both of softwoods and hardwoods is found. There has, however, been extensive cutting of the forests in the past and a policy of conservation and re-forestation has become necessary in recent years. A certain amount of timber, however, is exported annually to Australia, but the trade with the United Kingdom is small.

51. A wealth of hardwoods exists in many of the countries of the Empire within the tropics. Foremost amongst these is From India and Burma. India.

Hardwoods are found in all parts of India, though for export purposes the most important areas are Burma, the Andamans, and the Western Ghats. The chief difficulty in extracting these timbers from Burma and the West Coast is their inaccessibility and the lack of transport facilities. The forests consist of many kinds of trees in intimate mixture; it has been recorded that in teak forests no less than 64 species of forest trees are found in common association with teak. The Government of Burma has drawn up a list of timbers of economic value, amongst which probably the most promising is Pyinkado. This timber is practically a newcomer in the United Kingdom, but a wide market is anticipated as its exceptional properties of durability become known. It is extremely hard and heavy, is claimed to resist the attack of teredo, and is described as highly suitable for piers, wharves and underwater work generally. Amongst other Burma timbers regarded as suitable for marketing in the United Kingdom are Eng, Gurjun, Thitka, and Padauk, all of which are of good qualities and attractive in colouring.

52. The Andamans are a chain of small mountainous islands situated in the Bay of Bengal and surrounded by coral reefs. They are clothed down to the water's edge with dense tropical vegetation. The natives have never possessed axes or wood-hewing implements, so that the forests have remained unchanged by man and may be classed among the virgin forests of the From the Andamans.

world. There is no teak on the islands, but there are many other species of an economic value, chief amongst which are Padauk, Gurjun, Koko, Silver greywood and white mahogany. The timber is readily accessible, since no parts of the islands are more than about ten miles from the coast. Logs are dragged to the sea and rafted to the mills for conversion. The timber is marketed chiefly in India, but an increasing quantity is now being sent to the United Kingdom. We are informed that no private firms have in the past been granted concessions on the islands and that the timber is worked by the Forest Department of the Government of India.

From
British West
Africa.

53. British West Africa is well situated geographically to supply the timber market of the United Kingdom. The output of Nigeria and the Gold Coast is at present limited to Mahogany, with a comparatively small quantity of Ebony and "Ashanti cedar." These Colonies produce many other varieties of timber, which in contradistinction to mahogany are classed as "secondary" to that important source of revenue and trade. Some of these, such as Iroko and Sida, should have considerable economic value. We understand that the Colonial forestry departments are devoting attention to the study of the possibilities of these "secondary" timbers for local purposes and are preparing to ascertain the possibilities of their development for an export trade. From the evidence which we have received, it appears that the trade in mahogany would be assisted if the economic value of some of these other timbers could be proved. West Africa mahogany, like the teak in Burma, does not grow in dense stands but scattered throughout forest areas, mingled with other species. An increase in the number of trees profitably extracted from a given area should obviously decrease the general overhead costs on mahogany.

From
British West
Indies.

54. Many timbers of possible importance in trade are found in the British West Indian Islands and the mainland Colonies of British Guiana and British Honduras. The mahogany of British Honduras and Jamaica has already been mentioned. Amongst timbers of proven value the "luxury" woods, such as ebony and lignum vitae, of Jamaica and the Bahamas may be mentioned. There are immense resources of timber in British Guiana, the development of which is retarded by difficulties of transport. Greenheart has been exported to the United Kingdom for many years for use in a number of directions, of which the two extremes are piles for marine construction and the most flexible sections of fishing rods. Mora is another variety of hardwood, found in British Guiana and Trinidad, which is becoming known in the markets of the United Kingdom as a useful timber for constructional purposes where strength and durability are required.

From Ceylon
and British
North
Borneo.

55. Valuable timbers are imported into the United Kingdom from Ceylon and British North Borneo. The chief export from

Ceylon is satinwood, which is a fine decorative wood, specially suitable for veneers. From British North Borneo there is a fairly large trade in red and white cedar (seraya) and camphor wood. Camphorwood resembles teak and is used for such purposes as coachbuilding.

56. These instances merely illustrate the great wealth of hardwood timbers in the Empire. Some of those mentioned like mahogany and teak and, to a less degree, jarrah and karri from Australia, maple from Canada and greenheart from British Guiana are already established in the timber trade and well known to the British public. Others such as "Tasmanian oak" and padauk are known to some extent; others are just appearing and behind them is a wide range as yet only known to the forester.

Vast wealth of Empire hardwoods.

IX.—" HOME-GROWN " TIMBER.

57. The forest resources of the United Kingdom have for long been inadequate to meet the needs of the country. During the War, the imperative demand for economy of freight space forced the State to turn to the woodlands of Great Britain with a heavy and destructive hand. At the outbreak of war there existed, fortunately, a comparatively large proportion of mature timber, both conifers and oak. Precise information is not available but it has been estimated that some 450,000 acres, mainly of softwoods, were "clear-felled" during or immediately after the War, yielding approximately 1,000 million cubic feet of timber. This represented about one-third of the timber resources of Great Britain. Naturally the best and most readily accessible timber was taken.

Depletion of resources during the war.

With a view to remedying the situation resulting from this depletion of timber resources, the Forestry Commission of Great Britain was constituted in 1919.

58. A census of woodlands taken in 1924 by the Forestry Commission shows a total area of woodland in Great Britain of 3,000,000 acres, equivalent to 5.3 per cent. of the total land area of the country. Of this woodland area, about one half is described as being reasonably productive; of the rest approximately 800,000 acres of felled wood and scrub are, from the forestry point of view, idle land; 500,000 acres of coppice and coppice with standards have a very low average productivity; finally 200,000 acres of amenity and similar woodlands are definitely uneconomical in the sense that they are outside the scope of commercial forestry.

Extent of woodland areas.

The following table* provides an estimate of the contents of the woodlands of Great Britain in 1924.

Saw Timber sizes—				Millions of cubic feet. (quarter girth measurement.)	
Coniferous	...	...	...	748	
Hardwood	...	...	...	798	
					1,546
Pitwood sizes—					
Coniferous	...	...	...	374	
Hardwood	...	...	...	342	
					716
Total	...	...	...		2,262

This estimate excludes branchwood; further, no account has been taken of hedgerow timber or of the contents of woodlands classified as uneconomical (amenity woods, etc.).

Rate of re-planting.

59. It is estimated by the Forestry Commission that private planting will not at best do more than keep pace with current fellings, and we are advised that under existing conditions it is probable that fellings exceed plantings. The current planting programme of the Forestry Commission is approximately 23,000 acres per annum, mainly conifers. Private owners and Corporations are planting about 12,000 acres per annum additionally.

Under its present programme, 90 per cent. of the planting undertaken by the Forestry Commission is of softwoods. This is a matter of expediency. The timber cut during the War was mainly coniferous and as this is the class required in greater bulk for commercial purposes, the primary effort of the Commission is to replace it as quickly as possible.

Consumption.

60. The Forestry Commission estimate that 56,000,000 cubic feet were felled in 1924. The Commission state that probably 30,000,000 cubic feet of that total were consumed in the districts in which they were produced or else disposed of in the round as pitwood to the coal mines; the remainder, about 25,000,000 cubic feet, went into town mills and was distributed as converted timber.

Haphazard felling.

61. There are few large areas of forest land in Great Britain. The timber grows for the most part in small woods and plantations scattered over the countryside. Many of the owners of these woodlands have not in the past pursued a policy with a view to deriving a recurrent profit from their timber. Timber has often been felled in a haphazard fashion—a tree here and

* Taken from the "Report on Census of Woodlands and Census of Production of Home-grown Timber, 1924," issued by the Forestry Commission, 1928.

there, marked by the owner for removal on account of its age or for some other reason unconnected with its commercial value. Not being a regular contributor to the timber market, the owner has lacked the inducement to keep himself acquainted with prices or to study the means of deriving the best value from his timber.

62. The marketing activities of the Forestry Commission of Great Britain are at present relatively small. They sold about £70,000 worth of timber in the year 1926-27. None the less, their selling arrangements illustrate the commercial possibilities of the woodlands of Great Britain. We have been informed that in cases where the Commissioners have undertaken the preparation of timber for market and its subsequent sale they have succeeded in disposing of every portion felled and have realised greater profit than by selling the standing timber according to a practice prevalent in the British countryside. The case of the Tintern woods has been cited to us. There the timber and thinnings were divided into some 30 or 40 categories, ranging from oak timbers for furniture manufacture to bean and pea sticks, and each category obtained its separate market. This affords a valuable illustration of the extent to which efficient organization renders possible the intensive utilization of forest produce.

Advantage
of intensive
utilization.

63. The methods of the Forestry Commission can, to some extent, be applied on the larger and better timbered estates. Many large owners have already placed the management of their woodlands on a commercial footing by installing their own sawmills and carrying out the conversion of the timber on their estates. One witness has informed us that for over 100 years the wood sales on his estate had not met the cost of maintenance and taxation on the woodlands. After installation of a sawmill, the values realised had covered such costs as well as depreciation on the plant and had left a profit. The woodlands on many properties are too small to justify the erection of sawmills, but it has been suggested to us that by means of portable sawbenches, provided through co-operative action, owners should be able to secure the profits arising from careful conversion. We understand that associations have been formed in England and in Scotland with the object of developing such action among woodland owners, not only in the sale and disposal of timber but also in planting and woodland management.

Opportunity
for
co-operation.

X.—TRADE IN "HOME-GROWN" TIMBER.

64. The scattered and uncertain nature of the sources from which the "home-grown" timber markets draw their supplies has reacted upon the character of the trade. It is mostly in the hands of small merchants, trading independently and each dealing in timber derived from a comparatively small area in his

Nature of
the trade

own neighbourhood. There are no organised markets for "home-grown" timber. Various disadvantages arise from this want of organisation. Overhead charges are frequently high in proportion to the amount of trade done. The accumulation and maintenance of stock sufficient to justify close grading and sorting are often a matter of difficulty. On the one side large consumers complain that they cannot obtain supplies of "home-grown" timber readily, and on the other the saw-mill owner is unable to quote for many of the larger contracts. Thus timber the intrinsic qualities of which would justify its use for high-grade work is disposed of locally for general purposes. At the same time the saw-mill owner is in competition with a well organised foreign trade, wherever he sells in the larger towns and, indeed, often in his own area. It thus follows that the price he offers for standing trees is often low and insufficient to encourage the proprietor to replant. There appears to be scope for greater organisation with a view to winning back part of the market now held by foreign supplies.

Uses.

65. A committee, consisting of representatives of the Land Agents' Society, the Federated Home Grown Timber Merchants' Association, the Royal Institute of British Architects and the Department of Scientific and Industrial Research, has recently tabulated the purposes for which "home-grown" timber is suited. The results of their investigations have just been published*. The enquiry covers some thirty varieties of timber. Their range of uses, which run into several hundreds, forms in itself an interesting commentary on the essential part which timber takes in the manufacturing industries of the country. This publication sets out the various uses both fully and authoritatively. We only refer to two special uses of timber for which there is normally a large demand at present chiefly supplied from foreign sources.

Oak, beech
and elm
for wood
paving.

66. English oak and English beech are used to a certain extent for wood paving. The use of English elm for this purpose, is we think worthy of attention. Early trials of English elm undertaken in London were inconclusive. The Forest Products Research Laboratory at Princes Risborough has, however, recently carried out a series of tests which demonstrate its suitability for road paving. A greater use of English oak, beech and elm by Highways Authorities should be of advantage to the "home-grown" timber trade.

Pitwood
and pit
props.

67. In 1927 pitwood and pit props were imported into the United Kingdom to the value of nearly £5½ millions. As compared with this total the "home-grown" pitwood and pit props are of small value, none the less in Scotland and in the North of England, where comparatively large stands of conifers are

* "The uses of Home-grown Timbers" published by the Department of Scientific and Industrial Research (Forest Products Research), Price 1s. net.

found, the trade has a relative importance. The estates of the Forestry Commission are also now beginning to produce pitwood and pit props and their output is steadily increasing.

68. No question arises in connection with "home-grown" timber of introducing new varieties to the United Kingdom market. The problems chiefly centre round an increase in supply and an improvement in marketing organisation. Increase of supply is being directly encouraged by the Forestry Commission; improvement of marketing organisation is only gradually attracting attention. Different as these two problems may appear in detail from those confronting other Empire countries, yet the aim is the same—to secure a greater share of the United Kingdom market for Empire produce.

Problems of the trade.

XI.—CONDITIONS FOR INCREASING THE USE OF "HOME-GROWN" AND OTHER EMPIRE TIMBERS.

69. Both "home-grown" and Overseas Empire timbers have to compete with well organised supplies from foreign sources. The conditions of successful competition are the same as in the case of other commodities. There must be a supply, regular and sufficient in quantity, suitable in quality, competitive in price, backed by adequate propaganda. None the less there are special features which condition competition in the timber trade due to the characteristics of forestry and to the purposes to which timber is put.

Conditions for successful competition.

70. On the one hand felled timber cannot rapidly be replaced. On the other hand many of the uses to which timber is put are of a permanent nature and the suitability of a timber for a particular purpose can often be judged only after a series of years. In introducing any new product or in extending the use of a known article to a new purpose there is always the opposition to be met from vested interests and there is also the inertia of custom. In the case of timber, this inertia is reinforced by a natural doubt as to the behaviour of a given wood over a long period of time.

Special features peculiar to timber.

XII.—CONTINUITY OF EFFORT.

71. To meet these conditions systematic work is necessary. Injudicious attempts to establish a trade in a timber of which no large supplies are available, or of which the supply may fail after introduction, are liable to prejudice the general movement towards the greater use of Empire timber in the British market. Sporadic attempts to develop a trade in timber are peculiarly inept; the campaign must be planned with foresight and continued methodically and without interruption over many years.

Sporadic attempts useless.

72. The first objective is to press the sale of varieties of Empire timbers already partially known. It would be a

Concentration of effort.

mistake to crowd the market with a large number of new and untried kinds, for the public and the trade would only be confused, the expense of carrying stocks of many varieties in restricted demand would be prohibitive and the danger of recommending timbers for unsuitable purposes would be increased. New timbers should not, in our opinion, be placed upon the market without the most careful ascertainment of their properties, for mistakes in this regard cannot fail to prejudice subsequent attempts to introduce other new timbers from the same country.

XIII.—REGULARITY OF SUPPLY.

73. We propose, for convenience of presentation, to consider the questions of regularity of supply, quantity and quality from the point of view of the introduction of a new timber. The problems are obviously more clear cut in such a case, but they are involved only in slightly less degree in the development of the market for timbers already partially established.

Preliminary surveys.

74. The first consideration in the introduction of a new variety of timber to the United Kingdom market is regularity of supply. Regularity of supply depends primarily upon the quantities in which the growing timber exists in the country of origin and upon its accessibility. It must exist in commercial quantities, must be accessible both as regards extraction and transport, and an organisation must be in existence to ensure that regular supplies can be shipped from the country of origin and placed on the United Kingdom market at a cost which will enable it to compete with established timbers of similar qualities. The estimate of the quantities available and of the cost of extraction and transport must of necessity be conducted in the country of origin. For this purpose forest engineering surveys are required.

XIV.—DETERMINATION OF USES.

Need for investigating technical qualities.

75. When surveys have shown that a given kind of timber exists in merchantable quantities, the technical qualities of that timber should be investigated in order to determine its commercial uses. A general idea of the properties of a timber is rarely sufficient to justify its recommendation for a particular purpose. Oak from one country may be substituted for oak from another in the decorative trades with complete satisfaction, but it does not follow that the same two oaks are equally satisfactory for use for arms on telegraph poles, for which strength is the chief consideration. The increased use of fire-resisting materials in building has lessened the use of timber for joists and general construction purposes, with the result that selection of softwoods for such work turns now less on their strength than on other properties such as ease of working on the bench and of obtaining rapidly surfaces suitable for taking paint. Even with a competitive price, it is not sufficient to inform a purchaser

that a certain timber is a soft or hard wood roughly equivalent in quality to a known kind. He requires reassuring on practical points connected with the particular uses to which he desires to apply the wood in question.

76. In the Dominions local experience furnishes a good guide to the probable uses of commercial timbers in the United Kingdom. In tropical countries local experience is not so helpful. In both cases, information based on investigation in the country of sale and use is necessary. Science has now furnished means whereby much of that information can be obtained more quickly than from experience gained from the slow process of "trial and error"—and in the case of timber "trial and error" is indeed a slow process.

Local
experience
a partial
guide.

XV.—PRELIMINARY EXAMINATION.

77. The first step in the determination of the probable uses of a timber is the microscopic examination of its cellular structure by a trained wood technologist. This examination not only enables a correct identification of species, but may disclose such a structure and properties as to render improbable any important industrial use. Thus, expense and effort in endeavouring to market a new timber for which the market prospects are small may be avoided. On the other hand, such examination may reveal a similarity of structure to a timber of proved commercial value and thereby afford a preliminary indication of profitable uses. An instance has been cited to us from India where, by a microscopic examination of this nature, two varieties of timber out of a large number of species were found to be suitable substitutes for boxwood.

By experi-
enced wood
technolo-
gists.

78. The wood technologist can complete his examination on a range of small samples of wood. It is not necessary that he should work in the country in which the timber grows. It is necessary, however, that he should possess a wide experience of the structure of woods of many countries and of the general uses they serve, and that he should have readily available for reference a collection of specimens and the results of their examination. Examination by a wood technologist, though very helpful as a pointer to the probable uses of a timber, does not provide sufficient data to enable a wood to be definitely recommended for any particular use. Trials on much larger samples are needed to determine strengths and strains, suitable methods of seasoning and of treatment by antiseptics, and behaviour under tools. When such tests on the larger scale are carried out under standard conditions, under the control of experienced specialists, then a very clear idea of the purposes to which a given timber is suited and of the manner in which it should be handled may be obtained.

Note.—Wood Technology connotes in forest products research laboratories, microscopical investigation into the structure and properties of timbers.

XVI.—LARGE SCALE TESTS.

Forest products research laboratories in the Empire.

79. Large scale trials are the special function of forest products research laboratories. These institutions are expensive to equip and maintain, but their value is being increasingly recognised throughout the Empire. There are now large and well-equipped laboratories at Dehra Dun in India, at Ottawa and Vancouver in the Dominion of Canada, and at Princes Risborough in England. A special Timber Investigation Branch is attached to the Forest Research Institute at Pretoria in South Africa, and both in Australia and New Zealand considerable research work into timbers has been conducted in co-operation with the Universities. We understand that the Council of Scientific and Industrial Research of the Commonwealth Government is carefully studying the question of establishing a forest products research laboratory in Australia and similar proposals are being considered by the Governments of New Zealand and the Federated Malay States.

Their assistance to export trade.

80. Apart from their obvious uses in regard to the greater local employment of all products from local forests, these laboratories in the Dominions and the Colonies can at the present stage assist the export trade by the conduct of tests on the green wood and the determination of the most satisfactory methods of seasoning sufficient to enable timber to stand the journey to Europe without deterioration, either from causes incidental to transport through the tropics or from attacks by insect or fungi.

Adoption of standards by British Engineering Standards Association.

81. It would appear that users of timber have not yet fully grasped the value of the results to be obtained from the recently established forest products research laboratories. The British Engineering Standards Association is promoting a wider utilization of these results by recognising certain methods of test as standard and by establishing standard forms in which such results may be presented.

Need for tests in the United Kingdom.

82. Pending the general adoption throughout the Empire of such standard tests and forms, it must be recognised that the trade in Great Britain will attach most weight to the results of research conducted in a laboratory at home with which they are familiar and with whose staff they can confer. Moreover, they thus obtain the advantage of the experience of a staff constantly in touch with the needs and methods of British users of woods, and the existence of a staff with such experience is of great value to overseas parts of the Empire in so far as it gives confidence to those who venture on newly introduced timbers.

83. Further, timber behaves differently under different climatic conditions. This is especially the case where it is brought from a tropical to a temperate climate. Even the transport of timber through the tropics may affect its properties and condition. The purchaser in the United Kingdom wishes to know how it will behave in his own country. He also requires to know the best and most economical methods of seasoning and conditioning the wood for his particular purpose. This knowledge can only be obtained by investigations undertaken in the United Kingdom.

84. The Imperial Institute have reported upon many Empire timbers. They have in the course of time brought together a large collection of samples. They have also organised timber exhibitions. They are widely known and receive enquiries regarding Empire woods. The experience of the individual members on their Advisory Committee should be of assistance in estimating the uses for which a timber is suitable. The Imperial Institute, however, deal with a wide range of raw materials, of which timber is only one. They possess neither the equipment nor the staff of a fully equipped forest products research laboratory. We appreciate the work they are capable of doing in the interest of Empire timbers, but in view of their location at South Kensington and lack of equipment, we do not think that they should be asked or expected to provide full data in regard to the employment of new Empire woods.

Tests by
Imperial
Institute.

XVII.—FOREST PRODUCTS RESEARCH LABORATORY AT PRINCES RISBOROUGH.

85. The Forest Products Research Laboratory at Princes Risborough has the equipment and staff trained for this class of work. It is, as we have explained, at present organised on a national basis to serve the needs of the United Kingdom only. It undertakes investigations at the request of the Forestry Commission into the uses of "home-grown" timbers. Apart from the occasional examination of Empire timbers at the request of commercial users in the United Kingdom, the laboratory at present undertakes investigations of an Empire character only on special occasions on payment of fees, and when such investigations can be fitted into its general programme. We think that an important service to the Empire might be rendered if satisfactory arrangements could be made for providing funds to enable the Laboratory at Princes Risborough to include the testing of Empire timbers as one of its normal functions.

At present
organised on
a national
basis.

Note.—In paragraph 37 above, mention was made of the co-operation of the Laboratory at Princes Risborough with the Southern Railway in regard to the creosoting of Douglas Fir for sleepers. In connection with another user, the Laboratory is investigating the means for obtaining a better finish on Douglas Fir when used for joinery purposes. This appears to turn largely on the manner in which tools are set.

Extension of activities recommended for Empire purposes.

86. We recommend that the Empire Marketing Board should investigate the possibility of securing an extension of the activities of the Laboratory at Princes Risborough for this purpose. Some additional capital expenditure on equipment would be required and also some recurrent expenditure on staff. But we do not contemplate any very large addition under either head, though this is a matter which will require examination in detail.

Utilization officer.

87. An interesting feature of the organisation at Princes Risborough is the presence on the staff of a special officer whose duty it is to be in constant touch with the timber market and with the users of wood and generally to act as a liaison officer between the scientific staff and the timber-using industries. He is described as a "timber utilisation" officer. An extension of the Forest products research laboratory to enable it to deal freely with Empire timbers would probably necessitate the appointment of a second timber utilisation officer. We should consider this appointment an important part of our proposals in regard to Princes Risborough. If it ever became necessary to appoint yet further utilisation officers to devote their whole time to the timbers either of a single Empire country or of groups of countries, we consider that the cost should be borne by the country or group of countries requiring that service.

Need for judgment in utilizing the laboratory for large scale tests.

88. These proposals for testing Empire woods will break down if indiscriminate demands are made on the services of the Laboratory. Such tests take time and demand much work and large samples. They should therefore be confined to woods which it is proposed to push in the market actively and methodically. We have already recommended that the Governments should concentrate their efforts on the more promising species, and it is in the belief that such a policy will be followed that we have recommended the extension of the activities of the Laboratory at Princes Risborough to deal with Empire timbers, the sale of which is to be pressed in the United Kingdom.

Machinery for settling priority.

89. If this is done some means will be required of deciding priority in regard to the services to be rendered by the Laboratory. Several considerations arise. Preference should clearly be given to those timbers which possess good commercial prospects; equally clearly the activities of the Laboratory should not be concentrated on the products of one or two portions of the Empire to the exclusion of those of other parts of the Empire. In estimating the commercial prospects of a timber, the chief points for consideration are its proved utility (or in the case of a new timber its *prima facie* value as indicated by examination by a wood technologist) its occurrence in merchantable quantity, its accessibility and the probability of regular supplies at competitive prices. We have still to consider the agency which should decide priority in accordance with these principles; we think that that duty might be entrusted to a Committee comprised of representatives of the Empire Marketing Board and

of all timber exporting parts of the Empire. At the present time it does not appear desirable to add to the number of "ad hoc" Government Committees, and we suggest that the Committee here proposed should be a sub-committee derived from some established recognised body, such as the Empire Marketing Board.

90. This question of priority only arises in regard to the major laboratory tests. It is not so important in regard to the preliminary work of the wood technologist. Many advantages, in fact, are likely to accrue from the examination of a large number of specimens of new woods whether or not they are subsequently developed commercially. Wide and useful knowledge of these timbers will thereby be obtained by the Empire countries overseas which do not possess their own wood technologists, whilst the material at the disposal of wood technology for purposes of comparison and record will be increased.

Less need for limiting demands on services of wood technologist.

XVIII.—QUALITY AND GRADING.

91. When all has been done to secure the fullest and most trustworthy knowledge of the capabilities of a new or unfamiliar timber, there still remains the problem of actually introducing it to the market. In our previous reports we have had again and again to reiterate the urgent need for close attention to quality and grading. Careful grading facilitates the actual processes of marketing and also gives confidence in the article sold. When confidence in standardized grades has been established, C.I.F. sales become possible and the difficulty and expense of carrying stocks is lessened. All this holds good in regard to timber and no less in the case of new kinds of wood than in that of well-known varieties; buyers are apt to be more critical of the behaviour of a new wood and less tolerant of possible defects than in the case of one of established reputation to which they are accustomed. This attitude may seem unjust, but it is very natural and needs to be taken into account.

Need for careful grading.

92. Where Empire timber is sawn and converted before export, there should always be careful grading. Some timbers are shipped in the log and such grading on export is not possible, but none the less care should be taken to send only logs which may be expected to yield a large percentage of high quality wood.

Grading before export.

93. A merchant with long experience of the timber trade has brought to our notice the system of grading in operation in the United States. There a scale of grades and faults for each kind of timber, according to the characteristic quality and defects of the wood, is accepted as a basis for sale in all but small local transactions. He has suggested that a similar system would be of general advantage if introduced into the United Kingdom. On that point we are not in a position to express an opinion, but we are convinced that any action which would remove some

Application of recognised standards.

of the looseness of description still prevalent in the timber market would be of general benefit and in the direct interest of exporters of Empire timbers.

XIX.—NOMENCLATURE.

Disadvantages of present looseness of description:

94. An extreme example of this looseness of description is furnished by the custom still prevalent of specifying in building contracts the use of "Dantzic pine," though none of that timber has been seen on the British market for some forty years. It is obvious that when terms are used which have lost meaning their effect is to permit the use of timber from any source of supply which approximates to the requisite quality. We hope that Empire woods will be specified in contracts to an increasing extent as their properties become better known and appreciated. With this object the importance of a clear and well-understood system of nomenclature for Empire timbers is apparent.

Names should be clear and authoritative.

95. The question of nomenclature is, however, not a simple one. For instance, Douglas Fir, which is the chief soft wood of the Empire, also grows abundantly in the north-western portions of the United States. It was first introduced into the United Kingdom as "Oregon pine," a name which served to distinguish it from the Pitch pine of the southern United States, and by the name of Oregon pine is still largely known in the British market. In the whole of North America—both the United States and Canada—it is known as Douglas Fir, and we presume that it was owing to some accident of origin of the samples first introduced into Great Britain that the geographical name Oregon became attached to it. To-day Oregon undoubtedly implies a United States origin and we therefore think that where it is desired that the timber used should be drawn from an Empire source the expression in the specification should be "Canadian Douglas Fir."

The choice of a trade name for a new timber requires care. It should be attractive, short and distinctive. The botanical description of the tree is rarely suited for trade purposes and the local name in the country of origin may at times be disadvantageous. Few, for instance, outside the country of origin, would appreciate that under the intimate but slightly contemptuous name of "stringy-bark" a wood of high value and great utility was being brought to their notice.

In some cases a local name such as "Padauk" may be adopted; in others a name associated with a wood of similar properties, as for instance "Tasmanian oak" or "African walnut"; and yet in others a name specially coined such as "Silver grey wood." In all cases, however, it is essential that new names be authoritatively introduced in order that they may be generally accepted. The difficulty of propaganda is increased if it is necessary to explain that the timber to which attention

is being drawn has several alternative trade names. A good timber deserves a good name, and should not have its identity obscured by aliases. We are glad to hear that the British Empire Forestry Conference are endeavouring to secure general acceptance of standard trade names for Empire timbers.

XX.—MARKING.

96. Clear nomenclature is the first step towards identification. It does not, however, obviate the substitution of foreign woods of the same or similar species in the execution of a contract. This may be prevented, unless actual fraud be resorted to, by marking the timber at the time of export or of preparation for primary sale in the United Kingdom. It is a common practice to place trade marks on the ends of logs and sawn timber. The advisability of adding a mark indicative of the Empire country of origin is worthy of careful consideration; such a mark would serve to remind both buyers and users of the availability of Empire timbers. It is, however, important that such national marks be associated not merely with the idea of origin but also with that of satisfactory quality.

XXI.—STOCKS.

97. The existence of stocks in the country of sale where the timber can be seen and drawn upon is a necessary feature of the timber trade. It ought to be possible to arrange special consignments against large orders, but for usual trade requirements stocks are needed. Contracts have to be completed to fixed dates and this does not admit of delay in obtaining supplies. A contractor may be induced to substitute foreign timber for Empire timber where the latter has been specified, not merely by reason of price but also because of ready supply. He frequently works under a penalty clause and may be willing to pay more for the foreign timber which is available than to wait for the Empire timber and risk a penalty for delay. When trade in a timber is well established the maintenance of stocks in the country of sale becomes a matter of course, but during the period of introduction of a new timber such stocks must involve special arrangements. Without stocks it is hopeless to expect to establish a regular trade. The necessity of special finance for maintaining stocks of a little known timber is an additional reason why an exporting country should concentrate on a few of its most promising varieties.

XXII.—FINANCIAL CONSIDERATIONS DURING INTRODUCTORY PERIOD.

98. The introduction of new timbers on to the market involves risk and expense which timber merchants hesitate to incur. Private enterprise has incurred that risk in the past, but the

Ensuring
stocks.

relatively small use of Empire timbers in the United Kingdom is a measure of the reluctance of the merchant to depart from tried and relatively safe courses. Associations of producers with or without Government aid (or in exceptional cases even Governments themselves) must be prepared to regard expenditure during the earlier periods of development as a capital outlay. We doubt the advisability, as a general rule, of Government Departments engaging in the trade and carrying the whole risk themselves. But without going to that extreme, assistance towards the maintenance of stocks during the introductory period might be provided by Governments in producing countries overseas, on the lines, for instance, of the Trade Facilities Act which was in force in the United Kingdom from 1921 to 1927.

Prices.

99. It is not only for the purpose of carrying stocks that special arrangements are necessary for the development of the market for a new timber. Prices must be carefully adjusted to the market rates of competing woods and producers must therefore be ready to regard an absence of profit in this stage as expenditure for development. The buyer is being invited to use a timber to which he has been attracted but to which he is unaccustomed and in regard to the behaviour of which he may entertain not unreasonable doubts. He must therefore be tempted in the matter of price. Fancy prices may at times be obtainable from some specialist who likes to have something rare and unique, but forest exploitation and development cannot rest on a sale of curiosities.

Replacements.

100. It is helpful to the introduction of a new timber or to the application of a timber to a new use, if some undertaking can be given to replace any pieces which may be found to be unsatisfactory. But in this regard there must be caution; guarantees unlimited in time are inadvisable. A timber may be subjected to usage for which it was not intended at the time it was put in, as for instance, by the constant movement of heavy trucks over a floor designed for light work. Faults may be attributed to a timber which are really due to defective building construction as when panelling is placed on a persistently damp wall. For these reasons, it is not customary in the timber trade to give extended guarantees. The last payment on a building contract is frequently deferred but when it has been paid and a clean completion certificate secured the transaction is regarded as closed. Once more, therefore, we come to the fact that exceptional measures may have to be resorted to during the development of a market and such measures involve a liability which must be cautiously incurred and provided for.

Advantages of reducing introductory period.

101. It will be seen that special financial arrangements for introducing new timbers may be involved under at least three heads, the carrying of stocks, the reduction of prices and guaranteeing of replacement. It is therefore clear that everything should be done, once a timber is selected for marketing, in order to reduce this period of development. We have been

informed that when left to the ordinary processes of trade, it took fifty-eight years for British Honduras mahogany to be recognised as equally suited as Cuban mahogany for furniture, although the woods are similar in appearance. By concentration and foresight and the adoption of suitable means, there is no question that in these days results may be achieved in a comparatively short time.

XXIII.—SPECIAL REPRESENTATIVES.

102. The Government of India have recently made an interesting endeavour to compass this end. They have appointed to London an officer of their Forest Department who has paid special attention to the commercial utilization of local woods in India. He does no trade in Indian timber. No consignments pass through his hands. But by keeping in touch with large users and important building operations he is able to influence the selection of Indian timbers for use in important contracts. He is thus succeeding in establishing the best form of propaganda for Indian timbers, namely—actual use. The supply is arranged through merchants and the ordinary trade channels. He is available to refer to, if any defects in the timber appear and is free, if he deems it advisable, to arrange for the substitution of any small portions which may turn out to be defective. If the Laboratory at Princes Risborough undertake the wider duties for the Empire which we have suggested, his knowledge of Indian timbers and of the trade fits him peculiarly for liaison with their staff and especially with their utilization officers. In view of the many aspects of the timber trade and of the many considerations involved in extending the market for timbers in the United Kingdom, other Governments might also consider the advisability of appointing to London similar representatives with special knowledge of the timbers of their own lands. Such agents would probably be attached to the London offices of the Governments.

XXIV.—PROPAGANDA.

103. Whatever arrangements be made for carrying the unavoidable risks in the earlier stages of introducing timbers there must be effective propaganda to stimulate interest. That propaganda must be supported by adequacy of supply, competitive prices and exact and confident knowledge of the suitability of the various timbers recommended; for great damage results if it is prematurely undertaken. Many different interests must be addressed; particular trades, like the furniture makers and plywood manufacturers must be approached; large users like public bodies, railway companies and dock authorities must be interested; architects and contractors must be persuaded. Behind all the general public should be educated to recognize Empire timbers. It is often difficult to say which of the parties interested has the final word; in some parts of a building the choice may be left to the contractor, but in other parts the

Effective
propaganda
necessary.

architect decides. Not infrequently the client expresses a decided preference for some timber in particular rooms. He may only know of such common timbers as oak, walnut and mahogany, and the architect may have an opportunity for substituting an Empire timber, when he can recommend it with knowledge and confidence. We therefore consider that special care should be taken to inform architects of the qualities of Empire timbers and above all of instances in which they have been used. We earnestly hope that architects generally will make it their interest to bring Empire timbers to the notice of their clients and utilise them wherever they can do so consistently with their clients' interests.

Need for
precise
information.

104. The points differ upon which users require to be assured. In some cases, the chief considerations will be ease of working, in others strength and durability, and in yet others appearance and the preservation of that appearance for many years. Therefore propaganda especially in trade and professional circles should not be of too general a character. It should deal with particular timbers and not omit the technical points involved in their utilization. For this reason, general advertising and Press articles, unless in the technical Press, will be useful only to a small extent. An example of the information which might be supplied is found in the brochure just published on "home grown" timbers, which we have already mentioned. Exhibitions organised in different parts of the United Kingdom are undoubtedly useful, but by far the most convincing propaganda alike for experts and for the general public is to be found in the inspection of important works, in which Empire timbers are in actual use.

Exhibitions.

105. Timber exhibitions should not merely display museum specimens. The utility and attraction of a timber Exhibition lies not in photographs and panels but in the display as far as possible of articles made from the timbers, articles in general use as well as decorative furniture. The Empire Timber Exhibition which was held in 1920 attracted much attention and stimulated general interest. Many regarded the timber exhibits at Wembley as among the most attractive displays at that Exhibition. The Imperial Institute have recently organised another timber exhibition in London. We consider that such exhibitions would serve a very useful purpose if they were also held at intervals in some of the other large towns of the country, especially as they become increasingly practical in their display and the information they supply.

Importance
of instances
of timber in
use.

106. But however well exhibitions may be organised the most potent propaganda, as we have already said, will be found in directing attention to the actual use of timber in accessible places. Actual use provides the answer to many doubts. We have appended to this report a list of a few works and buildings in which lesser known Empire timbers have been used (Appendix III). This is the kind of information to which we

think the widest publicity should be given and the representatives of different Empire countries interested in the development of their timber trade should make special efforts to keep such information up-to-date. It is important to bring home to the public that Empire timbers have been used in places much frequented and generally admired. For example, the furnishings of the "Royal Scot" express are of Indian Silver grey wood and the floor of the new building of Lloyds is of "Tasmanian oak."

107. However much different parts of the Empire may naturally be interested in the pushing of their own timbers it must not be forgotten that the user in the United Kingdom will desire the widest choice of Empire timbers for his consideration. We consider that lists should be compiled of important cases in which Empire timbers have been utilized in the United Kingdom and that the fact that such lists are obtainable should be advertised by the Empire Marketing Board, who would be prepared to distribute them to inquirers, referring the inquirer in any subsequent correspondence to the representatives of the countries concerned. From a practical point of view, it is important that such lists should relate to the timbers of the whole Empire and not be limited to those of any particular portions.

Circulation of lists giving such instances.

XXV.—VOLUNTARY PREFERENCE.

108. We have dealt in detail with the action which in our opinion exporting countries should take to make their timbers acceptable to the British user. But the active practical assistance of the purchaser is also needed. A detached attitude on his part is insufficient. We believe that the movement of voluntary preference in favour of Empire produce is extending and that it is being increasingly recognised as a potent factor in the development of the Empire. The fact has been recognised—

"that any expansion of the markets in the Empire Oversea (other things being equal) is more advantageous to the United Kingdom than a corresponding development elsewhere, because the Empire Oversea populations buy more British goods per head than the corresponding populations in other parts of the world."*

If, therefore, the Empire, both overseas and in the United Kingdom endeavours to meet the requirements of the British market in regard to timber it deserves to be met half way by British purchasers.

109. The "man in the street" has little or no opportunity for exercising his voluntary preference in favour of Empire timbers; but public bodies and big companies can do so in a most effective and permanent manner. They can give a lead

Action by public bodies and companies doubly valuable.

* "Britain's Industrial Future". Report of the Liberal Industrial Inquiry. Ernest Benn, Ltd., 1928.

in this matter in a way no other purchasers can. Their buildings and works are visited and seen by many. Their names carry weight. But it is not only by way of propaganda that their custom is helpful. The knowledge that large users are employing certain Empire timbers in itself justifies the provision of stocks and facilitates the carrying of them on a scale to supply the small-user also. Thus the interest of public bodies and large companies is doubly valuable; it provides the most permanent and effective propaganda possible, and it assists the movement during its most difficult stage.

Action by
Office of
Works.

110. The Office of Works has brought to our notice some of their specifications which show a useful and interesting progression. In the earlier specifications foreign timbers were stipulated for certain uses. Later a choice was permitted between foreign woods and certain named Empire woods. Finally, on April 30, 1928, the Under-Secretary of State for the Home Department announced in the House of Commons that "as a general rule only British Empire timber will be specified for carpenters' and joiners' work in Office of Works' building contracts." There is room, however, for a wider adoption of this policy by a very much larger number of buyers.

Opportunity
for public
bodies and
companies.

111. A few years ago a Dominion Minister on being conducted round a recently-finished municipal building was told with pride that in that building were so many miles of panelling of Austrian oak, and somewhat similar quantities of other foreign woods. We would prefer that in the future a visitor may be told with pride that the woodwork he sees and the floors he walks upon are made from Empire timbers, whether he be visiting a town hall, a university, a bank, a company's offices or a school.

XXVI.—SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS.

112. We summarise our conclusions and recommendations as follows:—

(1) The adequacy of the world resources of timber, especially of soft woods, to meet the world consumption of the future, is causing grave anxiety to Forestry Authorities. We have not found this feeling of apprehension shared generally by members of the Timber Trade in the United Kingdom.

(2) We therefore suggest to the forthcoming British Empire Forestry Conference the need of satisfactory arrangements for collecting and maintaining statistics of the world demand for timber as well as of the merchantable supplies.

(3) The total value of timber, manufactured wood and wood pulp imported into and retained for consumption in the United Kingdom in 1927 was £67,000,000.

(4) It has been computed by the Forestry Commission that the total consumption in the United Kingdom in 1924 amounted to nearly 1,100 million cubic feet of standing timber (excluding imports of manufactures of wood) and that of this amount only 56 million cubic feet, or 5.4 per cent. were supplied from "home-grown" sources.

(5) Of the timber imported into the United Kingdom in the year 1926, approximately 95 per cent. of the soft woods and 70 per cent. of the hard woods were derived from foreign and not from Empire sources.

(6) It is from Canada that any large increase in supplies of Empire grown soft woods is to be expected and attention is specially directed to the possibilities of extending the use in the United Kingdom of Douglas Fir from British Columbia.

(7) The methods of conversion of timber in British Columbia are at present mainly designed for the needs of the North American markets. We suggest that if the export trade with the United Kingdom is to be increased there will have to be study of the special requirements of this market.

(8) We suggest that the utilization of lighter hardwoods in place of softwoods should be carefully explored.

(9) There is great potential wealth of hard woods in the Empire.

(10) To secure a wider use in the United Kingdom of Empire-grown timber from Overseas, there must be a supply regular and sufficient in quantity, suitable in quality and competitive in price, backed by adequate propaganda.

(11) In addition to the foregoing requirements, we think that in the case of "home-grown" timber there is room for co-operation among the woodland owners. We have discussed this in paragraphs 61-63 of this Report.

(12) We advocate a policy of restraint in regard to the number of varieties of new Empire timbers which are concurrently introduced to the British market.

(13) We propose that arrangements should be made to enable the Forest Products Research Laboratory at Princes Risborough to undertake work on behalf of the Overseas Empire as one of its normal functions and we recommend the attention of the Empire Marketing Board to this matter.

(14) The introduction of new Empire timbers involves risk and expense which exporters, with or without Government aid, must be prepared to undertake.

(15) We suggest that Governments might consider the advisability of appointing to London representatives with special knowledge of the timber of their own lands.

(16) The Empire Marketing Board might with advantage circulate lists of important instances in which Empire timbers may be seen in use in the United Kingdom.

(17) We direct the attention of public bodies to the opportunity of setting an example to timber users generally in the use of timbers of Empire growth. In this connection we call attention to the list given in Appendix III attached to this Report.

H. J. MACKINDER (*Chairman*).

ALGERNON F. FIRTH	}	United Kingdom.
THOMAS ALLEN		
J. S. WARDLAW-MILNE		
F. N. BLUNDELL		
HARRISON WATSON	}	Canada.
W. A. WILSON		
J. A. COOPER	}	Commonwealth of Australia.
F. L. McDOUGALL		
JAMES PARR	}	New Zealand.
R. S. FORSYTH		
J. H. DIMOND		Union of South Africa.
J. W. DULANTY		Irish Free State.
VICTOR GORDON	}	Newfoundland.
WILLIAM C. JOB		
ATUL C. CHATTERJEE	}	India.
M. M. S. GUBBAY		
F. J. NEWTON		Southern Rhodesia.
G. GRINDLE	}	Colonies and Protectorates.
J. H. BATTY		
D. T. CHADWICK (<i>Secretary</i>).		

27th July, 1928.

APPENDICES.

APPENDIX I.

IMPORTS OF UNMANUFACTURED WOOD AND TIMBER, 1927.
(Compiled from the Trade Returns of the United Kingdom.)

Softwoods (Load = 50 Cubic Feet).

	Hewn.		Sawn.		Planed or Dressed.		Pitprops or Pitwood.	
	Loads.	Value £.	Loads.	Value £.	Loads.	Value £.	Loads.	Value £.
<i>Empire :</i>								
Canada	16,426	111,144	315,761	1,774,796	—	—	—	—
Total	16,426	111,144	315,761	1,774,796	—	—	—	—
<i>Foreign :</i>								
Russia	53,867	127,938	1,143,615	5,651,006	—	—	—	—
Finland	73,133	148,892	1,714,761	7,361,038	74,209	399,212	672,741	1,515,830
Latvia	—	—	438,676	1,897,808	—	—	—	—
Sweden	27,548	104,136	922,435	4,219,700	423,804	2,480,754	332,915	827,179
Norway	31,276	122,957	137,585	672,334	153,766	908,161	86,496	230,557
Poland (including Dantzic)	—	—	804,203	3,413,510	—	—	—	—
France... ..	—	—	—	—	—	—	1,138,091	1,494,798
Germany	2,062	4,673	55,833	248,252	1,807	10,238	—	—
United States of America	55,463	434,583	235,613	1,869,657	5,131	57,522	—	—
Total	243,349	943,179	5,452,721	25,333,305	658,717	3,855,887	2,230,243	4,068,364
Other Countries	60,174	188,842	257,363	1,138,904	29,899	182,980	634,250	1,389,460
Total (<i>Empire and Foreign</i>)	319,949	1,243,165	6,025,845	28,247,005	688,616	4,038,867	2,864,493	5,457,824

Miscellaneous (Soft and Hard).

	Staves.		Sleepers.		Veneers.		Not otherwise Specified.	
	Loads.	Value £.	Loads.	Value £.	Loads.	Value £.	Loads.	Value £.
Total (<i>Empire and Foreign</i>)	104,159	739,871	248,390	963,177	3,803	205,703	2,869	17,995

Hardwoods.

	Hewn.		Sawn.		Total (Hewn and Sawn).
	Cubic Feet.	Value £	Cubic Feet.	Value £	Value £
MAHOGANY.					
<i>Empire and Foreign</i>	2,287,097	596,260	1,680,813	609,376	1,205,636
ALL OTHER SORTS.					
<i>Empire :</i>					
British East Indies	79,034	43,919	1,663,250	853,767	897,686
Canada:	321,305	77,935	3,824,812	605,921	683,856
Total	400,339	121,854	5,488,062	1,459,688	1,581,542
<i>Foreign :</i>					
Russia	16,378	2,996	—	—	2,996
Finland	131,750	10,501	839,831	105,860	116,361
Poland	—	—	1,261,085	224,811	224,811
Japan	—	—	462,738	157,995	157,995
United States of America	700,421	141,696	16,432,653	3,868,581	4,010,277
Total	848,549	155,193	18,996,307	4,357,247	4,512,440
<i>Other Countries</i>	2,714,782	428,767	3,665,481	1,028,627	1,457,394
Total, all other sorts	3,963,670	705,814	28,149,850	6,845,562	7,551,376
Total, Hardwoods	6,250,767	1,302,074	29,830,663	7,454,938	8,757,012

APPENDIX II.

IMPORTS OF HARDWOODS, 1926.

(Compiled from the Trade Returns of the United Kingdom).

Oak.

	Hewn.		Sawn.		Total (Hewn and Sawn).
	Cubic feet.	Value £.	Cubic feet.	Value £.	Value £.
<i>Empire :</i>					
Irish Free State	28,920	2,585	7,897	1,320	3,905
Canada	5,020	1,594	14,066	3,509	5,103
Australia	—	—	41,472	10,929	10,929
New Zealand	—	—	5,400	1,685	1,685
Other Countries	3,566	785	2,657	883	1,668
Total	37,506	4,964	71,492	18,326	23,290
<i>Foreign :</i>					
Russia	53,142	15,796	21,607	6,642	22,438
Latvia	56,535	17,584	—	—	17,584
Poland (including Dantzig)	515,016	80,456	578,968	111,751	192,207
Italy	3,733	1,210	253,851	120,658	121,868
Austria	—	—	45,234	20,859	20,859
Serb-Croat-Slovene	—	—	186,296	81,956	81,956
Japan	37,859	9,178	443,441	153,644	162,822
United States of America	94,259	20,724	7,324,304	1,755,031	1,775,755
Other Countries	10,207	2,047	101,332	32,215	34,262
Total	770,751	146,995	8,955,033	2,282,756	2,429,751
Total, Oak ...					2,453,041

Mahogany.

<i>Empire :</i>					
British West Africa	1,069,331	247,282	155,735	34,561	281,843
British Honduras	126,796	74,790	—	—	74,790
British India	—	—	2,951	1,552	1,552
British North Borneo	—	—	24,842	5,686	5,686
Other Countries	119,062	19,556	5,721	2,764	22,320
Total	1,315,189	341,628	189,249	44,563	386,191
<i>Foreign :</i>					
France	83,555	23,328	56,535	16,595	39,923
French West Africa	1,021,824	205,791	123,580	26,240	232,031
United States of America	48,266	21,675	1,228,067	518,593	540,268
Cuba	43,873	18,383	—	—	18,383
Philippines and Guam	—	—	2,776	741	741
Brazil	—	—	68,458	12,909	12,909
Other Countries	56,731	14,877	37,459	13,808	28,685
Total	1,254,249	284,054	1,516,875	588,886	872,940
Total, Mahogany					1,259,131

Teak.

	Hewn.		Sawn.		Total (Hewn and Sawn).
	Cubic Feet.	Value £.	Cubic Feet.	Value £.	Value £.
<i>Empire :</i>					
British India	43,704	20,347	1,794,363	898,600	918,947
Straits Settlements	—	—	4,275	2,445	2,445
Other Countries	—	—	10,920	2,676	2,676
Total	43,704	20,347	1,809,558	903,721	924,068
<i>Foreign :</i>					
Java	1,350	569	10,098	3,521	4,090
French Indo-China	—	—	53,777	20,016	20,016
Siam	5,925	3,015	214,249	110,445	113,460
Philippines and Guam	—	—	5,221	1,538	1,538
Other Countries	2,329	686	15,133	5,328	6,014
Total	9,604	4,270	298,478	140,848	145,118
Total, Teak ...					1,069,186

Walnut.

<i>Empire :</i>					
Nigeria	8,325	1,763	—	—	1,763
Canada	—	—	36,645	36,560	36,560
Other Countries	728	218	10,843	4,254	4,472
Total	9,053	1,981	47,488	40,814	42,795
<i>Foreign :</i>					
Russia	9,800	2,000	—	—	2,000
France	4,210	1,519	102,363	46,677	48,196
French West Africa	8,933	906	—	—	906
United States of America	3,985	1,407	393,708	217,747	219,154
Other Countries	2,821	1,091	13,536	4,148	5,239
Total	29,749	6,923	509,607	268,572	275,495
Total, Walnut ...					318,290

Other Sorts.

	Hewn.		Sawn.		Total (Hewn and Sawn).
	Cubic feet.	Value £.	Cubic feet.	Value £.	Value £.
<i>Empire :</i>					
Irish Free State	286,085	18,409	139,729	12,940	31,349
British India	32,824	17,538	45,868	27,675	45,213
Australia	82,830	14,595	552,790	140,086	154,681
Canada	553,204	107,902	2,879,149	470,101	578,003
West Indies	15,244	4,749	—	—	4,749
British Honduras	3,140	1,520	—	—	1,520
British Guiana	123,695	45,113	—	—	45,113
Other Countries	20,782	5,439	93,104	33,858	39,297
Total	1,117,804	215,265	3,710,640	684,660	899,925
<i>Foreign :</i>					
Finland	130,786	13,120	645,865	91,795	104,915
Latvia	115,560	13,406	—	—	13,406
France and French West Africa.	110,278	25,783	107,376	23,392	49,175
Italy	4,534	584	101,456	22,489	23,073
Austria	—	—	108,149	22,105	22,105
Serb-Croat-Slovene	—	—	107,520	22,387	22,387
United States of America	953,740	152,720	6,084,930	1,363,583	1,516,303
Philippines and Guam	—	—	164,898	41,135	41,135
Other Countries... ..	289,779	91,952	361,899	61,872	153,824
Total	1,604,677	297,565	7,682,093	1,648,758	1,946,323
Total, Other sorts					2,846,248

APPENDIX III.

A LIST GIVING A FEW INSTANCES OF THE USE OF EMPIRE TIMBERS IN WORKS
AND BUILDINGS IN GREAT BRITAIN.

(No instances are given of "home-grown" timber, or of teak and mahogany, as it is assumed that most people are familiar with cases in which they have been used.)

CANADIAN TIMBERS.

Western Hemlock.

Baring Brothers' Bank, Limited, Bishopsgate, London.	Framing.
Daily Express Offices, London	Framing for Board Room.
St. George's Church, Kidderminster	Choir stalls and seating.

Maple.

Hudson Bay Company Offices, London ...	Flooring.
Many buildings erected by the Office of Works, such as:—	} Flooring.
Metropolitan Telephone Exchange, London	
Letter-sorting office, Mount Pleasant, London.	
Telegraph factory and stores, Birmingham	
Letter-sorting office, Cardiff	
Post Office, Walsall	

Douglas Fir.

Civil Service Supply Association, London ...	Framing.
Grosvenor House, London	Flooring.
Many buildings erected by the Office of Works, such as:—	} Flooring.
Telephone Exchanges at Kensington, Sutton, Colchester and elsewhere.	
Pier, Clacton-on-Sea	Piling.
"Princess Kathleen" and "Princess Mar- guerite," built by Messrs. John Brown & Co., Clydebank, for C.P.R. Company.	Decks.

AUSTRALIAN TIMBERS.

Tasmanian Oak.

Lloyds, Leadenhall Street, London	Flooring
London County Council Schools at Woolwich and Hammersmith.	Flooring.
Lyons Corner House, Oxford Street, London ...	Flooring.
Seamen's Hospital, Greenwich	Flooring.

Jarrah.

Atlas Insurance Company, Cheapside, London	Flooring.
Tonbridge School	Flooring.
Commercial Union Assurance Company, Birmingham.	Flooring.
Co-operative Wholesale Society, King's Lynn, Norfolk.	Flooring.
Aerodromes at Spittlegate and Patchway ...	Flooring.

Australian Walnut.

Southern Railway Company 1st-class coaches ...	Panelling.
--	------------

Silky Oak.

Lyons Corner House, Oxford Street, London ...	Tables.
---	---------

INDIAN AND BURMA TIMBERS.

Laurel Wood.

London County Hall: Voting lobby	Panelling.
P. and O. Banking Corporation, Leadenhall Street, London.	Panelling.
Guardian Insurance Company, King William Street, London.	Panelling.
Shell Mex, Limited, London	Panelling to Board Room.
Messrs. Harrods, London: Departmental stores	Panelling.

Silver Greywood.

County Fire Office, Piccadilly Circus, London...	Panelling.
L.M.S. Railway 1st-class coaches of "Royal Scot."	Panelling.
Offices of Messrs. Blades, East and Blades, London.	Doors.
General Electric Company, Birmingham ...	Panelling.

Gurjun.

Cox's Bank, Limited, Waterloo Place, London	Flooring.
P. and O. Banking Corporation, Leadenhall Street, London.	Flooring.
Guardian Assurance Co., King William Street, London.	Flooring.
Bush House, Aldwych, London	Flooring.
Royal Exchange, Glasgow	Flooring.
St. Michael's Church, Mill Hill	Flooring.
Several Railway Companies	Coachwork.

Padank.

All Saints' Church, Paddington, London ...	Panelling, pews, doors.
Bovis, Limited, London	Panelling to Board Room.
Barclays Bank, Limited: branches at London, Stockton-on-Tees and Hastings.	Counters.

Pyankadu.

Bridge across Thames, Henley.

White Mahogany.

Barclays Bank, Limited (branches at London and Stockton-on-Tees).	Fittings.
---	-----------

BRITISH WEST AFRICAN TIMBERS.

Iroko.

Forest products research laboratory, Princes Risborough.	Laboratory tables.
--	--------------------

African Walnut.

Emmanuel College, Cambridge	Staircase, panelling, etc.
------------------------------------	----------------------------

BRITISH GUIANA TIMBERS.

Greenheart.

Southern Railway Company	Dock gates at Southampton.
---------------------------------	----------------------------

CEYLON TIMBERS.

Satinwood.

Lyons Popular Café, Piccadilly, London ...	Panelling.
--	------------

BRITISH NORTH BORNEO TIMBERS.

White Cedar.

Great Western Railway Company	Under - frames of coaches.
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DEPARTMENT OF OVERSEAS TRADE.

Report
ON THE
Conditions and Prospects
of British Trade in
INDIA

1927-28.

By **THOMAS M. AINSCOUGH, C.B.E., M.Com., F.R.G.S.**

His Majesty's Senior Trade Commissioner in India and Ceylon.

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DEPARTMENT OF OVERSEAS TRADE.

COMMERCIAL REPRESENTATION ABROAD.

To foster British overseas trade, the Department has developed and controls the following services of Commercial Intelligence Officers:—

1. IN THE EMPIRE.

The Trade Commissioner and Imperial Trade Correspondent Services.

At the present time there are 13 Trade Commissioners' offices. These are situated, four in Canada (Montreal, Toronto, Vancouver, Winnipeg); two in South Africa (Cape Town, Johannesburg); two in Australia (Sydney, Melbourne); two in India (Calcutta and Bombay—to cover also Ceylon); and one each in New Zealand (Wellington), British East Africa (Nairobi) and British West Indies (Trinidad).

The Trade Commissioners in the Dominions have the assistance of Imperial Trade Correspondents at a number of important centres.

In various parts of the Empire in which at present there are no commissioners, there are correspondents with whom the Department deals direct.

The Department is represented in India by Mr. T. Ainscough, C.B.E., H.M. Senior Trade Commissioner; Mr. W. D. Montgomery Clarke, H.M. Trade Commissioner, Calcutta; and Major R. W. Clarke, H.M. Trade Commissioner, Bombay.

2. IN FOREIGN COUNTRIES.

(a) The Commercial Diplomatic Service attached to the British Diplomatic Missions.

This service consists of between thirty and forty posts in all, and the officers of the service are stationed in all the more important foreign markets of the world. The members of the Commercial Diplomatic Service are styled "Commercial Counsellors" in the highest grade, and "Commercial Secretaries" in the two lower grades. They are members of the staff of the British Embassy or Legation in which they serve.

The Commercial Diplomatic Officer has general supervision over the commercial work of the consular offices in his area, and, with the co-operation of these two services, a complete network of Government commercial representatives is thrown over foreign countries.

(b) The British Consular Service.

Particular attention has been given to the commercial side of consular work since the re-organisation of the service. In certain countries where no Commercial Diplomatic Officer is stationed the senior Consular officer undertakes duties of a similar character.

Members of British firms are urged to call upon the Department's representative abroad when they visit an overseas country. It is also important that they should make a point of their representatives abroad keeping in close touch with the Department's officers.

NOTE.

It should be understood that the views expressed in annual reports are the views of the officers themselves, and are not necessarily in all respects the views of the Department.

COVERING DESPATCH.

To the Right Honourable Sir Philip Cunliffe-Lister, K.B.E., M.P., President of the Board of Trade.

Office of H.M. Senior Trade Commissioner in India,
Fairlie House,
Calcutta.

1928.

SIR,

I have the honour to forward for your information a report on the conditions and prospects of British trade in India during the Indian fiscal year 1927-28.

The year under review has been a somewhat colourless one, but is noteworthy if only for the reason that a definite check has been given to the downward trend of the British share of India's imports which had been such a marked feature of the three previous years. Although this is to some extent due to a natural recovery from the disastrous effects of the coal strike of 1926, there are distinct signs that the improvement is being maintained during the present year. I am hopeful, therefore, that the general revival in trade, which is anticipated during the next few years, will be accompanied by a steady strengthening of the British position in the import trade of the United Kingdom's greatest market.

At the same time, systematic and carefully considered effort is required on the part of British manufacturers and exporters to meet the intense foreign competition, which is now being experienced in almost every trade, and to cope with the many weakening factors, which are the inevitable concomitant of the extension of self-government to India. This question has been dealt with in my remarks on marketing problems in Chapter I and in the lengthy treatment of the rupee tender system in Chapter II. As in previous reports, it has been my aim not merely to state facts and tendencies but, wherever possible, to comment on them and to advance practical and carefully considered suggestions.

Once again I have to acknowledge my indebtedness to the Officials of the Commerce, Industries and Finance Departments of the Government of India for their unflinching courtesy and assistance during the year. Special thanks are due to the Director-General of Commercial Intelligence and Statistics and his staff, who have prepared the special tables embodied in the report, to the Chief Controller and staff of the Indian Stores Department, and to the Collectors of Customs for their valuable help and co-operation which have always been so willingly rendered. I would also like to record my appreciation of the numerous memoranda which have been contributed by Engineers and other Officers in charge of important works throughout the country and which have, in most cases, been incorporated with due acknowledgments in the report.

I have the honour to be, Sir,

Your most obedient servant,

THOMAS M. AINSCOUGH,

H.M. Senior Trade Commissioner in India.

PREFATORY TABLES.

Note.—The author desires to express his indebtedness to the Director-General of Commercial Intelligence and Statistics for the particulars given in these tables.

I.—TRADE DISTRIBUTION :—PRINCIPAL ARTICLES.

TABLE SHOWING VARIATIONS IN THE SHARES OF THE PRINCIPAL ARTICLES IN THE IMPORT AND EXPORT TRADE OF BRITISH INDIA DURING THE LAST THREE YEARS, AS COMPARED WITH AVERAGES OF THE PRE-WAR AND WAR PERIODS.

IMPORTS (in percentages).

(Sea borne : exclusive of treasure and of imports on Government account).

	1909-14 Average.	1914-19 Average	1925-26	1926-27	1927-28
Cotton manufactures ...	36	35	29	28	26
Iron and steel ...	7	6	8	7	9
Machinery ...	4	4	7	6	6
Sugar ...	9	10	7	8	6
Railway plant ...	4	5	2	1	2
Hardware ...	2	2	2	2	2
Mineral oil ...	3	3	4	4	4
Silk ...	3	2	1	2	1
Other articles ...	32	33	40	42	44

EXPORTS (in percentages).

(Sea borne : exclusive of treasure and of exports on Government account).

	1909-14 Average	1914-19 Average	1925-26	1926-27	1927-28
Jute, raw and manufactures	19	25	26	26	26
Cotton, raw & manufactures	15	16	28	23	18
Food-grains ...	21	17	13	13	13
Seeds ...	11	6	8	6	8
Tea ...	6	8	7	9	10
Hides and skins ...	7	8	2	2	3
Other articles ...	21	20	16	21	22

II.—TRADE DISTRIBUTION—PRINCIPAL COUNTRIES.

TABLE SHOWING VARIATIONS IN THE SHARE OF THE PRINCIPAL COUNTRIES IN THE IMPORT AND EXPORT TRADE OF BRITISH INDIA DURING THE LAST THREE YEARS, AS COMPARED WITH AVERAGES OF THE PRE-WAR AND WAR PERIODS.

IMPORTS (*in percentages*).

(Sea borne : exclusive of treasure and of imports on Government account).

	1909-14 Average	1914-19 Average	1925-26	1926-27	1927-28
United Kingdom	63	56	51	48	48
Other parts of the British Empire	7	9	8	7	7
United States of America ...	3	7	7	8	8
Japan	2	10	8	7	7
Java	6	8	6	6	6
Germany	6	1	6	7	6
Other foreign countries ...	13	9	14	17	18

Note.—Imports from Germany during the quinquennium, 1914-19, consisted mostly of receipts in the early part of the official year 1914-15, and the residue of cargoes of prize vessels imported during the war period.

EXPORTS* (*in percentages*).

(Sea borne : exclusive of treasure and of exports on Government account).

	1909-14 Average	1914-19 Average	1925-26	1926-27	1927-28
United Kingdom	25	31	21	21	25
Other parts of the British Empire	16	21	14	17	16
United States of America ...	8	12	10	11	11
Japan	8	11	15	13	9
France	7	4	6	4	5
Germany	10	1	7	7	10
Other foreign countries ...	26	20	27	27	24

Note.—Exports to Germany during the quinquennium, 1914-19, were confined to the early part of the official year 1914-15.

*Including re-exports.

COMMERCIAL SUMMARY.

<i>Area—</i>		Sq. miles.
British India	... ..	1,094,300
Native States	... ..	711,032
Total	... ..	1,805,332

Population Census of 1921—

British India	... ..	247,003,293
Native States	... ..	71,939,187
Total	... ..	318,942,480

*Language (Commercial use of English, etc.)—English.**Monetary unit(s)—*

3 pie=1 pice.	
4 pice=1 anna	
16 annas=1 rupee.	
1 lakh=Rs.1,00,000	}
1 crore=100 lakhs.	
	e.g., Rs.1,45,67,200=1 crore, 45 lakhs, 67,200 rupees.

Rate of Exchange (pre-war and current average quotations)—

Pre-war	... ..	1s. 4d.
Current. June 30th, 1928	... ..	1s. 6d.

Index Numbers—July, 1914=100.

Wholesale prices, Bombay	... ..	March, 1928=142
Retail prices (food), Bombay	... ..	March, 1928=155
Cost of living (working class), Bombay	... ..	March, 1928=145

Principal weights and measures (other than ordinary metric or British) with British equivalents.

Weights and measures in India vary not only from district to district but also for different commodities within the same district, and though the railways have given a lead to the adoption of a uniform system, the country is so vast that the differences are likely to persist for many years to come. The principal units in all the scales of weights are the maund, seer and the tola, and the standard weights for each of these are 82·28 lb., 2·057 lb. and 180 grains troy. The tola is the same weight as the rupee. In addition to these weights, there is the viss of 3·60 lb. or 140 tolas and the candy of 500 to 840 lb. It is not necessary for the purposes of this volume to detail any variation of the weight of the maund, except those which enter into the export trade. It will be sufficient to say that in any particular city there are probably as many different maunds as there are articles to weigh. The only varieties which need be considered in connection with the foreign trade are the Bengal or railway maund already specified, the factory maund of 74 lb. 10 oz. 11 dr., the Bombay maund of 28 lb. and the Madras maund of 25 lb. In October, 1913, the Government of India appointed a Committee to inquire into the whole question, and their majority report, which was presented in the following year, recommended the extension of the railway system based on the 180 grains tola, while the minority report advocated the adoption of the metric system. The view of the Provincial Governments on these reports were obtained and the Government of India in their Resolution dated the 3rd January, 1922, declared themselves in favour of the ultimate adoption in India, excluding Burma, of a uniform system of weights based on the scale

now in use on the railways. It has been decided that no new measures prescribing all-India measures of weight or capacity should be introduced at present, but that the Local Governments should take such executive action as they can to educate public opinion in favour of the standard maund and seer.

In the table below an attempt has been made to present within a small compass the principal weights and measures employed in the Indian export trade.

Principal weights and measures in use in the export trade.

Name of Unit. General.	British Imperial Value.
Tola	180 grains troy.
Seer (Standard or Railway or Indian) ...	2·057 lb.
Seer (Factory)	1 lb. 13·5 oz.
Viss	3·60 lb.
Maund (Standard or 40 seers Railway or Indian)	82 lb. 4 oz. 9 dr.
Maund (Factory)	74 lb. 10 oz. 11 dr.

Note.—For local variations consult "Handbook of Commercial Information for India," by C. W. E. Cotton, C.I.E., I.C.S., 2nd Edition, 1924.

Total Imports—1st April, 1927, to 31st March, 1928.

	Rs.
Merchandise	2,49,90,01,719
Government Stores	11,62,56,128
Treasure	49,92,92,805
Total	3,11,45,50,652

Principal Imports.—Cotton manufactures, sugar, iron and steel, machinery.

Imports of merchandise from	United Kingdom	Rs.
" " " " "	United States of America	1,19,26,94,958
" " " " "	Japan ...	20,43,72,542
" " " " "	Germany ...	17,90,84,456
" " " " "	Germany ...	15,35,31,851
" " " " "	Java ...	14,70,24,717

Total Exports.—(Indian merchandise). 1st April, 1927, to 31st March, 1928, Rs.3,19,11,28,062.

Principal Exports.—Cotton, Jute, Grain, Pulse, Tea.

Exports of Indian merchandise to	United Kingdom	Rs.
" " " " "	United States of America	78,90,70,810
" " " " "	Germany ...	35,90,59,565
" " " " "	Germany ...	30,68,49,899
" " " " "	Japan ...	29,00,20,561

Railway mileage.—31st March, 1927.

Railways owned by the State... ..	40,299
Other railways	12,587
Total route mileage opened for traffic	52,886

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REPORT
ON THE
CONDITIONS AND PROSPECTS OF BRITISH TRADE
IN
INDIA,
1927-1928.

CHAPTER I.

GENERAL REVIEW OF THE PERIOD.

Authorities are unanimous in the view that the improvement in economic conditions in India during the past year was most marked and that the effects of the post-war trade depression are at last being dissipated. This has been due firstly, to improved economic conditions in the principal markets of the world, with the noteworthy exceptions of Russia and China; secondly, to the resulting stability in world prices which appear to be at last finding a post-war position of equilibrium; thirdly, to the advantages accruing from the stabilisation of the rupee; and, lastly, to favourable conditions in the country itself.

The monsoon, for the sixth year in succession, was a good one, and although floods caused considerable damage in Gujerat and certain districts in Bengal crops in general were bountiful ones. The exports of Indian merchandise showed a considerable increase, to which, with the exception of raw cotton, all the principal items contributed. Shipments of raw jute were 184,000 tons higher than in the previous year and export of jute manufactures showed a slight increase. Exports of grain, pulse and flour advanced by over Rs.3½ crores in value, largely due to increased shipments of wheat. Material increases are also to be recorded in the trade in tea and hides and skins. A decrease in the exports of raw cotton, amounting to 500,000 bales in quantity and 11 crores in value, was mainly due to reduced shipments to Japan, probably resulting from that country's financial difficulties during a part of the year and also to the temporary substitution by Japanese spinners of large quantities of American cotton purchased at the end of 1926, when prices of middling American were abnormally low.

The import trade of the country rose by nearly 19 crores of rupees, the most noteworthy features being an advance of 2 crores in the imports of raw cotton from the United States and of nearly 2 crores in the arrivals of mineral oils, largely due to the heavy shipments of Soviet oil from Black Sea ports. In manufactured goods iron and steel imports advanced by nearly 5 crores, machinery by nearly 2½ crores, railway plant by 1½ crores and

vehicles (largely motor vehicles) by $1\frac{1}{2}$ crores. The trade in imported cotton yarns and piece-goods, however, only advanced by 11 lakhs to a total of over 65 crores. The quantitative improvement, however, is greater than is apparent from a study of the values, inasmuch as the prices of piece-goods, iron and steel, and machinery were all on a lower level than in the previous year.

The value of the total imports increased, as compared with 1926-27, by Rs.19 crores, or 8 per cent., and amounted to Rs.250 crores, while the total exports, including re-exports, rose by Rs.19 crores, or 6 per cent., to Rs.329 crores. The exports of Indian merchandise showed an increase of Rs.18 crores, or 6 per cent., and re-exports of Rs.1,53 lakhs, or 19 per cent. The grand total of imports, exports and re-exports amounted to Rs.579 crores as against Rs.541 crores, an increase of Rs.38 crores, or 7 per cent. The balance of trade in merchandise in favour of India rose from Rs.79 crores to nearly Rs.82 crores. This was liquidated to the extent of 32 crores by imports of precious metals, leaving a total visible balance of trade of Rs.49.68 crores.

The Hon. the Finance Member, in introducing the budget on March 1st, 1928, very clearly summarised the position when he stated:—

“During the last two years prices in general have shown a stability unknown since the outbreak of the war. While more stable world conditions are partly responsible for this result, without which there cannot be a healthy basis for the expansion of trade, the figures of India's trade reflect the advantages which have accrued from the standardisation of the rupee. I always regard railway earnings as an important barometer of trade and the House has already been made aware of the remarkable improvement in the railway figures for 1927-28 which, by enabling important reductions to be made in railway charges, will itself give a new stimulus towards business and agricultural prosperity. In addition, I think I see other clear indications that during the last year Indian commerce has made a steady advance and that the effects of the post-war trade depression are at long last being dissipated.”

In my last two reports I have alluded to the continuous strengthening of the financial position of the Government of India, year by year, as a result of greater prosperity and a far-sighted financial policy. This progress continued during the year under review. For the financial year 1927-28, the revised estimate, like the original budget, exhibited neither a surplus nor a deficit. For the year 1928-29 a surplus is estimated of Rs.2,63 lakhs, but it is proposed to utilise Rs.2,58 lakhs of this for the complete extinction of the provincial contributions, leaving a small credit balance of Rs.5 lakhs. This marks an important epoch. As Sir Basil Blackett stated, the provinces can now proceed to carry out their local development schemes with the certainty that no part of their revenues will be diverted to the Central Government. Similarly the Central Government will be free to turn their minds on the one hand to new directions in which money can be usefully laid out for India's advancement, and on the other hand to the readjustment of the burden of taxation.

It is difficult to assess the precise effects of the stabilisation of the rupee in relation to gold, which was described in last year's report. There is little doubt, however, that the spirit of security and confidence which is engendered by a stable currency has contributed to the favourable results of the year and, by the elimination of that element of uncertainty and speculation which is such a handicap to the transaction of all sound business, will continue to be a strong factor in the promotion of India's economic prosperity.

The jute, tea and engineering industries were fairly prosperous during the year but the Bombay cotton mill industry continued to be depressed, although it is generally anticipated that the mills will show better results for 1927 than during the preceding year, largely owing to the purchases of exceptionally cheap American cotton at the beginning of 1927 and the subsequent rise in its value. This advantage, however, was lost during the last two or three months of the year when these stocks were exhausted. On the average about 10 per cent. of the looms and 20 per cent. of the spindles in Bombay remained idle during the year, yet, in spite of this, stocks at the close of 1927 showed an increase of 30 per cent. for cloth and 15 per cent. for yarn. Heavy imports of Japanese and Chinese yarns rendered profitable working very difficult, although it must be admitted that the cotton mill industry in other parts of India, such as Cawnpore, the Central Provinces and Madras, was comparatively prosperous. The prolonged strike, which began in April, 1928, has had the effect of reducing stocks and may, in the long run, prove a blessing in disguise.

A serious wave of labour unrest has swept through the country since the beginning of 1928. It began as a result of the efforts of the railway authorities to reduce the number of redundant men employed in the railway workshops. The carrying into practice of the recommendations of the Raven Commission raised the efficiency of the shops to such an extent that it was found that many thousands of workers were not required. The authorities were prepared to effect the reduction as gradually and with as little hardship as possible, but the workmen struck in the Khargpur shops of the Bengal-Nagpur Railway in February and a serious strike of four months' duration has just concluded at the East Indian Railway's shops at Lillooah. Strikes also took place at several of the private engineering works in Calcutta, whose men were influenced by the railway employés.

The Bombay cotton mills have also been closed since April, 1928, owing to a dispute resulting from efforts made by the mill-owners to raise efficiency by a redistribution of functions and a co-ordination of rates of pay. The workers were still out in July.

Discontent had for some time been apparent at the Tata Iron and Steel Works, in spite of the efforts of the company to arrive at a fairer adjustment of rates of pay, and sectional strikes were frequent when, in April, the company announced a general scheme

of bonus on production, amounting to Rs.10 lakhs per annum, which it was thought would meet labour demands. This did not meet with the response which was anticipated, and as production was being rendered impossible by *hartals* and sectional stoppages, the company closed the works on June 1st, damped down the furnaces and waited until the men were prepared to meet them on common ground. At the end of June the company published the terms on which they are prepared to open the works. They renew the offer of the bonus and are carefully considering all reasonable representations with regard to wages. They state, however, that they now intend to carry out the policy of employing only as many men as are essential for efficient working. This will involve a reduction of about one-fourth of the number of men previously employed.

In all these strikes one sees the attempt to resist the inevitable raising of efficiency in Indian industry by the greater use of improved machinery and organisation which must result in a reduction in the number of workers employed in individual concerns. Such a period of dislocation was almost inevitable during the change-over from the effete old methods with a large force of ill-paid and inefficient labour to the new and efficient systems with the increased use of machinery and labour-saving devices involving the employment of a reduced but more highly skilled and better paid labour force. There can be no doubt that the newer methods will prevail and that Indian industry will emerge from the crisis on a sounder and more competitive basis.

The communal riots, which were such a disturbing factor in 1926-27, did not seriously interfere with the internal movements of merchandise in the year under review. The tension between the Hindu and Moslem communities is still acute, but the outbreaks which occurred were, fortunately, not in the large trade centres.

The year has been crowded with events, such as the preliminary tour of the Statutory Commission on the Reforms, which are of the first political importance, but which it is out of place to discuss here except in so far as they react on the trade of the country. Efforts were made by the Swaraj party in Bengal to reinforce their activities in opposition to the appointment of the Simon Commission by proclaiming a boycott of British goods. These efforts, however, have had little or no effect. In the first place, the extreme political element have little influence in trading circles, and secondly there is such a strong Indian vested interest in the distribution of imported goods that they are able to defend themselves against any sporadic movement of this kind which affects their livelihood. There is no doubt, however, that the racial feeling among the younger generation of Indians, particularly in Bengal, is bound to have some influence on the sales of British goods. As I have frequently pointed out, however, there is very little sentiment of any kind shown in the transaction of Indian business.

Price is the controlling factor. It is therefore doubtful whether our foreign competitors have scored from political feeling to any material extent. That feeling has probably been of assistance to them in strengthening their connections in the market, particularly in the case of Germany since the war, but the business secured has, in most instances, been obtained owing to lower quotations or other solid advantages to the buyer.

The Outlook in the Import Trade.—The following remarks with which I concluded the forecast in my report for the year 1926-27 apply with almost greater force to the situation to-day :—

“ India stands to-day on a firmer economic basis than she has ever done. Her credit, both internal and external, has never been so good. Recurring surpluses, once the provincial contributions are finally remitted by 1929, will probably be applied to the reduction of taxation, when it is hoped that favourable consideration will be given to the reduction of certain of the import duties which bear heavily on trade expansion. Exchange has been stabilised at 1s. 6d., a rate which is, comparatively speaking, favourable to the import trade. The agriculturist is prosperous and has probably a greater reserve to-day than he has ever had. The stocks of imported goods, notably of textiles, are light, and large purchases of them are overdue. All these factors point to a revival in the import trade during the next twelve months.”

Once again the official forecast for the south-west monsoon is a most optimistic one. The Director-General of Observatories, on June 6th, 1928, stated that the monsoon rainfall is likely to be normal or in excess in the Peninsula and north-west India. The indications point, for the sixth year in succession, to abundant and well-distributed rains throughout the country.*

So far as cotton textiles are concerned, which constitute nearly 40 per cent. of British shipments to India, the prospects are, on the whole, favourable. Stocks are fairly light, both in the ports and in the mofussil districts. The resolutions of the Marwari Chamber of Commerce in Calcutta have largely contributed to this state of affairs in the most important market in the country. A study of the index numbers of wholesale prices in Calcutta shows that, of cotton manufactures, the annual average for 1927 was 159, as compared with 173 in the previous year. This would appear to be a figure at which the agriculturist can afford, after a succession of good crops, to purchase larger quantities. The future largely depends upon the course of Manchester prices, which in turn hinge upon the rates for the new cotton crop. With cloth prices on the basis of shilling cotton as they are at present, it is unlikely that any considerable weight of purchases will be made, but should Lancashire prices recede, as a result of a larger crop, to the basis of 8d. or even 9d. cotton, it is probable that a considerable buying movement for all Indian markets will take place towards the end of the year.

* This anticipation has been fulfilled except in regard to a few districts in Northern and Central India where the crops have partly failed.

There is every likelihood that the imports of iron and steel will continue to expand in spite of increased production in India. There is bound to be a check during the year 1928-29 to the steadily increasing output of the Tata Steel Works on account of the strike, and the import trade will probably receive a temporary fillip in consequence. Quite apart from this purely fortuitous stimulus, however, I have every confidence that the consumption of steel in India will increase at a very rapid rate *pari passu* with the general development of the country. The Tata works will probably meet a steadily increasing portion of this demand, but railway, public works, building and general industrial requirements will be so great that the market for structural sections, plates, sheets, &c., rolled to the British standard specification will also continue to expand, particularly in view of the lower rates of duties now imposed on British standard steel.

The outlook in the import trade for machinery and plant is promising. The British engineering industries are bound to benefit from the large schemes of railway construction, harbour development, irrigation and hydro-electric enterprises and bridges building, which are dealt with in Chapter IV and elsewhere in this report. In Chapter II, however, will be found a description of the changed methods of purchase which will result from the inauguration of the rupee tender system for Government stores. The extent to which British engineering firms will be successful will largely depend upon their readiness to adapt their Indian policy to the changed conditions and to develop a thoroughly efficient sales, technical and service organisation on the spot. Apart from the requirements of Government, however, the steady progress which is being made throughout the country in the application of power to small industries, agricultural operations and lighting is certain to result in an increasing demand for boilers, prime movers and electrical plant. The imports of textile machinery are also likely to reflect the prosperity of the jute industry and the recovery and modernisation of the cotton mills. Mining and oil-well engineering provide an improving market for plant of all kinds, while the demand for specialities such as sewing and knitting machines, typewriters, &c., grows apace.

After the period of acute depression, through which, with few exceptions, Indian industries have passed during the past few years, there are now unmistakable signs of recovery. This should stimulate the demand for the innumerable miscellaneous items of equipment, plant and stores which—in the aggregate—amount to a very large sum and constitute a valuable British trade.

General Position of British Trade in India.—The following table, compiled by the Director-General of Commercial Intelligence and Statistics, clearly shows the percentage shares of the United Kingdom, the British Empire as a whole, and the principal foreign countries in the trade of India during the fiscal year 1927-28, as compared with the previous year and the last complete pre-war year :—

	Imports.			Exports, including re-exports.			Total Trade.		
	Pre-war average.	1926-27	1927-28	Pre-war average.	1926-27	1927-28	Pre-war average.	1926-27	1927-28
	Share per cent.	Share per cent.	Share per cent.	Share per cent.	Share per cent.	Share per cent.	Share per cent.	Share per cent.	Share per cent.
United Kingdom	63	48	48	25	21	25	40	33	35
British Possessions	7	7	7	16	17	16	12	13	12
TOTAL BRITISH EMPIRE	70	55	55	41	38	41	52	46	47
TOTAL FOREIGN COUNTRIES	30	45	45	59	62	59	48	54	53
<i>Principal Countries.</i>									
BRITISH EMPIRE—									
United Kingdom	62.8	47.8	47.7	25.1	21.5	25.4	40.0	32.8	34.9
Ceylon ... ..	.5	.6	.8	3.7	4.8	4.8	2.4	3.0	3.1
Straits Settlements	2.1	2.5	2.3	3.4	3.1	2.8	2.9	2.8	2.6
Australia ... ..	.7	.7	.8	1.4	2.5	2.0	1.1	1.8	1.5
Hongkong ... ..	.7	.4	.5	4.1	1.0	.7	2.7	.7	.6
Other British Possessions	2.9	2.9	2.9	3.4	5.6	5.2	3.2	4.4	5.3
TOTAL BRITISH EMPIRE	69.7	54.9	55.0	41.1	38.5	40.9	52.3	45.5	47.0
<i>Foreign Countries.</i>									
Germany	6.4	7.3	6.1	9.8	6.6	9.8	8.5	6.9	8.2
United States	3.1	7.9	8.2	7.5	11.1	11.2	5.8	9.7	9.9
Japan	2.5	7.1	7.2	7.5	13.3	8.9	5.5	10.7	8.1
Java... ..	6.4	6.2	5.9	1.3	1.0	.8	3.3	3.2	3.0
France	1.5	1.5	1.7	6.6	4.5	4.9	4.6	3.2	3.5
China (exclusive of Hongkong and Macao)	1.1	1.4	1.8	3.9	3.7	1.4	2.8	2.7	1.6
Belgium	1.9	2.9	3.0	5.3	2.9	3.3	3.9	2.9	3.2
Italy	1.0	2.7	2.7	3.2	3.7	4.0	2.3	3.3	3.4
Other Foreign Countries	6.4	8.1	8.4	13.8	14.7	14.8	11.0	11.9	12.1
TOTAL FOREIGN COUNTRIES	30.3	45.1	45.0	58.9	61.5	59.1	47.7	54.5	53.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

It is satisfactory to note that the steady reduction in the United Kingdom's share of the import trade, which fell by no less than 10 per cent. in the previous three years, has at last been checked. The figure of 47·7 per cent. is actually one decimal point lower than the previous year, but in view of the greatly increased imports of raw materials in which the United Kingdom has no interest, the figure, so far as competitive goods are concerned, is really considerably higher. Imports from the United Kingdom advanced by 9 crores of rupees from Rs.110 crores to Rs.119 crores, which is all the more remarkable when one considers that the values of the British shipments of cotton textiles, which constitute 40 per cent. of the British trade, were actually reduced. The result is due to greatly increased shipments of iron and steel, machinery, railway plant, hardware, motor cars, motor cycles, cycles and other manufactured goods, which involve a material strengthening of the British position. This improvement continued during the first three months of the present fiscal year, and there are grounds for hope that our relative position will be still further strengthened during the year 1928-29. It should be borne in mind that the year 1926-27 included the general strike and the prolonged coal stoppage, and stocks of British goods in India had to be replenished. This process was completed many months ago and progress still continues. Any material relative improvement in the British share of the cotton textile trade would probably advance the total percentage figure by several points.

Foreign Competition.—Foreign competition now enters into practically every trade, including those which have hitherto been almost exclusively British. The outstanding features of the year have been intensified American competition in machinery, motor cars, rubber tyres, electrical apparatus and fents; increased shipments from Germany of dyes, chemicals, hardware, machinery, artificial silk and woollen piece-goods; an advance of nearly 2 crores in the value of the imports of grey, white and coloured piece-goods from Japan; larger purchases of Italian artificial silk yarn and piece-goods, woollens and coloured woven and dyed cotton goods, and a continuance of severe Belgian competition in iron and steel and railway material. There are several features, however, which deserve special mention, and I will, therefore, deal with the principal competing countries in turn. Statements showing the values of the principal imports from each country will be found in the appendix on pages 197 *seqq.*

American.—There has been a material increase in the imports of American products amounting to over 2 crores in value. The percentage advanced from 7·9 to 8·2. An analysis of the returns show that this is mainly attributable to an increase of over 2 crores in the imports of American cotton, purchased in the early months of 1927 when the disparity in price between the American and the

Indian staple had almost disappeared. This is likely to be a temporary phase. Imports of motor cars rose by nearly Rs.77 lakhs and of tyres by over Rs.30 lakhs, while instruments and apparatus, machinery, building materials, boots and shoes and toilet requisites were all higher. Apart from raw materials such as mineral oils and raw cotton, which last year contributed nearly 50 per cent. of the United States trade, American competition is keenest either in those standardised articles such as motor cars, typewriters, &c., where American prices are extremely favourable and where the manufacturers take a very close personal interest in the distribution, or in industrial machinery, tools, electrical equipment, boots and shoes, toilet requisites, &c., where they find a market by strenuous salesmanship and an effective use of modern advertising and distributing methods. In a recent report on the South American markets by the Deputy Minister of Commerce, Canada, he stated that British brains, capital and experience were now employed in increasing the trade of the United States at the expense of Great Britain, and this was largely because American exporters, recognising the qualifications of British commission houses, were enlisting their services "by giving larger commissions, attending more strictly to the needs of the country, manufacturing what is wanted, sending out factory experts and mechanics and also expert salesmen, and giving service after the sale is made." This might be said with almost equal truth with regard to the Indian market. The American manufacturer appears to have grasped the fact that he must follow up his goods until they reach the hands of the consumer. He assists his agents in every way, by granting adequate advertising and travelling allowances and by visiting the market either himself or in the person of an energetic representative.

The United States Government is actively supporting this campaign, which is aimed at securing a greater share of India's trade. Active Consular posts are established at Calcutta, Bombay, Karachi, Madras and Rangoon, and at least four Trade Commissioners are stationed in the country who report to, and are under the control of, the Bureau of Foreign and Domestic Commerce, Washington. Every effort is being made by reports and interviews to interest the American manufacturer in the Indian market.

German.—The past year witnessed a decline in the imports from Germany from 16·9 crores of rupees to 15·3 crores. The percentage share fell from 7·3 to 6·1, which brings it just below the pre-war figure of 6·4. German shipments in 1926-27 were temporarily swollen by over a crore's worth of beet sugar, imported when Java prices were high. This trade has now ceased. German shippers have regained their hold on the trade in dyes and are making a determined bid for the valuable business in

heavy chemicals and drugs. They are actively competing in machinery of all kinds and in the innumerable items of cheap hardware and sundries used in the bazaars. Wherever low priced goods are required and quality is not the main desideratum, German shippers can frequently undercut British prices to the extent of from 10 to 25 per cent.

Japanese.—Imports from Japan during the year rose from Rs.16.5 crores to Rs.17.9 crores, while the percentage advanced from 7.1 to 7.2. Japanese competition in textiles has been dealt with at some length in Chapter V. The main features during the year were increases of Rs.1.23 crores in grey piece-goods, nearly Rs.6 lakhs in bleached goods and Rs.38 lakhs in coloured goods. There was a reduction of nearly a crore's worth of cotton yarns. Apart from these textile items and one or two miscellaneous lines such as crockery, Japan's shipments to India do not come into direct competition with British products but compete more with Germany and Czechoslovakia.

Italian.—The share of Italy in the import trade of India before the war was only 1 per cent. During the years 1926-27 and 1927-28 it has remained steady at 2.7 per cent. Imports of Italian goods rose from Rs.6.2 crores in 1926-27 to Rs.6.7 crores in the year under review, the increases being principally in coloured cotton goods, artificial silk mixtures and woollen piece-goods. The value of Italian motor cars imported declined by about a lakh. The following figures will give some idea of the strides made by Italian textiles during the last three years :—

	1925-26 Rs. (lakhs).	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
Coloured, printed or dyed cotton goods	58	70	85
Artificial silk yarn	34	64	66
Artificial silk mixtures	37	81	91
Woollen piecegoods	34	35	37

Belgian.—The total trade in Belgian goods rose from Rs.6.8 crores to Rs.7.5 crores and the percentage from 2.9 to 3.0. As usual, iron and steel manufactures accounted for more than half the trade. Imports of steel bars rose from Rs.84 to Rs.103 lakhs, structural steel sections from Rs.33 to Rs.62 lakhs, while plain sheets fell from Rs.38 to Rs.36 lakhs and hoops and strips from Rs.16 to Rs.13 lakhs. A striking feature of the returns has been the heavy imports of Belgian railway material, amounting to Rs.164 lakhs on Government account and Rs.59 lakhs on account of company-operated railways. This represents, in the main, very large contracts for steel sleepers which were placed by the Director-General of Stores, London, with Belgian rollers in 1926 and early 1927 at very low prices. An import of Rs.62 lakhs worth of precious stones is also noteworthy. Cheap Belgian window glass has a firm hold in this market and there is also a trade in cotton

and woollen piece-goods. In view of the importance of Antwerp as the port of shipment for the products of a large area in western Germany and northern France, it is likely that many of the items credited to Belgium in the customs returns are in fact German and French goods in transit.

Marketing Problems.—In his message to the Advertising Convention at Birmingham, H.R.H. the Prince of Wales recently stressed the importance of new and scientific methods of marketing which are demanded by modern conditions. This need for improved marketing systems lies at the heart of the British trade position in India to-day, and the crux of the matter is adequate representation. For the last ten years in these reports I have consistently emphasised the fact that the British manufacturer can no longer afford to leave the marketing of his products entirely in the hands of others but must himself take an interest in, and generally supervise the processes of, selling, propaganda and advertising until the goods actually reach the ultimate consumer. After 21 years' business and official experience in two of our greatest markets, India and China, I state with firm conviction that the marvellous industrial strength of the United Kingdom is to a large extent dissipated, and British manufacturers fail to obtain their due share of the trade of the East owing to the fact that our marketing methods are not so scientific or carefully planned having regard to the needs of each country as our methods of production. An authority recently stated with great truth that "this great nation of manufacturers must become a nation of salesmen before it can hope to compete successfully in the world's markets." There is evidence of increased attention being paid to the specific needs of India, the greatest of all our markets, by a number of the more powerful British concerns during the past few years, but correspondence with hundreds of British manufacturing firms each year shows that the great majority have not yet appreciated the changed conditions in India which tend to weaken our position and which call for revised methods and organisation in order to meet them. I make no apology, therefore, for reiterating many of the comments which have been made before, but which apply with even greater force to-day.

The number of efficient, modern selling organisations adequately covering the Indian market and making full use of present-day methods of propaganda and advertising is extraordinarily few. The distribution of cigarettes, kerosene, certain chemical products, soap and sewing machines are outstanding examples of efficient marketing. In the case of heavy machinery and plant of all kinds the manufacturers have in most cases established their own branches staffed with both commercial men and engineers. In the great majority of cases, however, British manufacturers have been content to leave the whole question of selling

and distributing methods entirely in the hands of their mercantile agents in India. They have been prone to consider that once they received payment for the goods in London their interest in them ceased. They have not realised that mercantile agents in India have, as a rule, far too many irons in the fire to give close personal attention to any one agency unless they are assisted and prompted to do so by the manufacturer.

The only solution is for the producer to take a personal interest in the market and to realise that, without the expenditure of capital and trouble, he cannot hope to have his goods adequately distributed. In a certain number of instances, where business is conducted on a large scale, a branch in India is indicated. In other cases, and particularly where a machine, appliance or article requiring special knowledge is being sold, the maker should attach his own expert to the staff of the agent, so that technical advice and service may be available on the spot. Where the manufacturer employs agents for the sale of a non-technical commodity, he should realise that it is too much to expect any local firm to undertake heavy expenditure on travelling, demonstration and propaganda work for a mere 5 per cent. commission on sales. In the case where a traveller is employed who is either resident in India, which is the more satisfactory procedure, or merely visits the country each cold weather, it should be borne in mind that a subsidy is required to cover advertising and other propaganda expenditure, including *extensive* travelling, and the manufacturer should make it his business to make sure that the territory is not too large to be adequately worked and that this subsidy is spent in the right way.

In conclusion, the manufacturer should realise that he has an interest in his goods until they reach the consumer. Unless he is prepared to put in a sales organisation himself or to insist that his agents should maintain an efficient organisation, he will run the risk of losing the trade. *The pace, in any market, is that set by the most efficient competitor.* In my report for 1919 I dealt with this question of representation at great length. In Chapter II of this report I have considered the special efforts required to meet the revolutionary change which is taking place in the procedure of purchase of Government stores, including railway requirements. Further detailed information and advice, including the names of, and particulars concerning, prospective agents can be obtained from the Indian Section of the Department of Overseas Trade, 35, Old Queen Street, London, S.W.1, where there are duplicates of the extensive records accumulated by the Trade Commissioners' Officers in Calcutta and Bombay in the course of ten years' intensive effort in the market. Finally, I would strongly advise British manufacturers, who have interests in this country, to make a cold weather visit and see for themselves the far-reaching changes which are taking place. They will then realise the paramount

need for *service*, which is appealed for on all sides, and will appreciate the dangers of complacency and the very great and sustained efforts which are imperatively required if we are to maintain our economic position in India.

The Balance of Trade.—The Controller of the Currency in his lucid report for 1927-28, on which I have very freely drawn for the ensuing comments, gives the following statement which compares India's visible balance of accounts during the year with that of the preceding year and with the averages of the five pre-war years, the five war years and the seven years immediately after the war. The detailed figures work up to a plus or minus balance (*plus* representing net export and *minus* representing net import) for each of the three main heads of classification, namely (1) private imports and exports of merchandise, (2) private imports and exports of treasure, and (3) remittances through Government, leading up to a *plus* or *minus* total for the transactions as a whole.

	Average of 5 pre-war years ending 1913-14	Average of 5 war years ending 1918-19	Average of 7 years ending 1925-26	1926-27.	1927-28.
			(In lakhs of Rupees)		
Exports of Indian merchandise (private)	+ 2,19,50	+ 2,15,98	+ 3,12,55	+ 3,01,43	+ 3,19,11
Re-exports of Foreign merchandise (private)	+ 4,62	+ 8,16	+ 14,59	+ 8,01	+ 9,54
Imports of Foreign merchandise (private) (b)	- 1,45,85	- 1,47,80	- 2,44,49	- 2,29,98 (b)	- 2,46,78 (b)
Balance of Trade in Merchandise (private)	+ 78,27	+ 76,34	+ 82,65	+ 79,46	+ 81,87
Gold (private) (a)	- 28,86	- 7,81	- 25,49	- 19,40	- 18,10
Silver (private) (a)	- 7,21	- 2,99	- 13,73	- 19,79	- 13,85
Currency notes (private) (a)	-	-	31	14	24
Balance of Transactions in Treasure (private) (a)	- 36,07	- 10,80	- 39,53	- 39,33	- 32,19
Total visible Balance of Trade	+ 42,20	+ 65,54	+ 43,12	+ 40,13	+ 49,68
Council bills and telegraphic transfers paid in India, purchases of sterling from banks and firms in India and payments for sterling taken over in London from local bodies	- 41,35	- 34,96	- 27,84	- 2,82	- 37,77
Sterling transfers on London sold in India	- 5	+ 5,60	+ 6,73	+ 1,93	-
Transfers of Government securities	- 87	- 38	- 27	+ 3	+ 28
Interest drafts on India in respect of Government of India securities	- 45	- 30	- 33	- 34	- 35
Balance of Remittances of Funds	- 42,62	- 30,14	- 21,71	- 1,20	- 37,84
Total visible Balance of Accounts	- 42	+ 35,40	+ 21,41	+ 38,93	+ 11,84

(a) Excludes transactions which do not enter into the balance of trade.

(b) Exclusive of the value of Railway materials imported direct by State Railways working under company management.

After taking into account the sum of Rs.2,95 lakhs, being the net payment in India of foreign money and postal orders and Rs.1,10 lakhs representing telegraphic transfers on India from 'Iraq, the visible balance in favour of India is reduced to Rs.7,79 lakhs, as against a corresponding figure of Rs.34,17 lakhs in the previous year. This residual amount is probably to be accounted for by various items which can only be estimated, such as private remittances, exports and imports of capital, remittances of the proceeds of shipping and insurance services, tourist expenditure, &c., &c.

Bullion Movements.—Gold.—The Currency Controller states that :—

“ A comparison of the imports of gold since April, 1925, when *de facto* stabilisation of the rupee at 1s. 6d. (gold) took place, with the imports for the five pre-war years is interesting. In 1924-25 the imports were exceptionally large due mainly to the large drop in the price consequent upon the rise in the gold value of the rupee and the possibility that this drop in price would be temporary. This cause was operating to a certain extent in the first half of 1925-26, but thereafter the volume of imports decreased considerably, and for the years 1926-27 and 1927-28 the average net import was only 18,75 lakhs as compared with an average for the five pre-war years of 28,15 lakhs. Allowing for the fact that in pre-war years gold was valued at Rs.15 to the sovereign, the decrease in the imports during the last two years as compared with the pre-war imports is very striking and tends to confirm the view which has been expressed in the last two reports that with the growth of the investment habit in India gold imports in future are not likely to be as large as in the past.

Of the total gross imports shown in the trade returns, 8,47 lakhs came from Natal, 3,91 lakhs from the United Kingdom, 2,03 lakhs from Egypt, and 1,22 lakhs from the United States of America. The decrease of over 3 crores in imports from Natal is due to the demand of other countries, principally Argentina and Brazil, for South African gold.

In section 4 of the Indian Currency Act, 1927, obligation is laid on Government to receive at the Bombay Mint, at the rate of Rs.21-3-10 per tola fine gold, all gold in the form of bars containing not less than 40 tolas which may be presented by the public. This section came into force on 1st April, 1927, and on that date the conditions attaching to the acceptance of gold at the Bombay Mint were published. Either fine or unrefined gold may be tendered, gold of fineness less than 990 being accepted only as unrefined. All gold tendered will be melted and assayed on receipt, a charge of 2 pies per tola being made for melting and assaying fine gold with a minimum charge of Rs. 12. Payment of not more than 95 per cent. of the value of the gold tendered will be made on receipt of the gold if the Master of the Mint is satisfied that a preliminary certificate should be issued. As the rupee-sterling exchange did not reach the upper gold point in the course of the year no gold was tendered at the Mint.

By the same Act, sovereigns and half-sovereigns ceased to be legal tender in India, but an obligation was placed on Government to receive these coins at all Currency Offices and treasuries at their bullion value, reckoned at Rs.21-3-10 per tola of fine gold, *i.e.*, Rs.13-5-4 per full weight sovereign. The value of the sovereigns received by Government at this rate during the year was only Rs.5,034. In spite of the fact that these coins have ceased to be legal tender the value of the imports increased from 5,64 lakhs to 6,71 lakhs.”

Silver.—The highest price recorded in London during the year was 26½ *d.* per standard ounce in November, 1927, while the lowest

quotation was 25*d.* in September, 1927. The silver market during the year presented few outstanding points of interest and the price fluctuated within very narrow limits. India's demand for silver decreased considerably during the year. Of the total gross imports amounting to Rs.16,44 lakhs, silver of the value of Rs.6,87 lakhs was obtained from the United States and Rs.5,71 lakhs from the United Kingdom, as compared with Rs.4,90 lakhs and Rs.12,00 lakhs in the preceding year. There was a net export of about 1 crore of rupees to China.

The Course of Exchange.—Telegraphic transfers on London fluctuated between $1/6\frac{3}{8}$ in December, 1927, and January, 1928, and $1/5\frac{1}{8}$ in April, May and August, 1927. The Controller states that :—

“ At the end of March, 1927, exchange was dull and quiet with a tendency to weakness due to slackness in the export trade and demands for sterling on bullion account. This tendency continued during April and was emphasised temporarily towards the end of the month by the inauguration by Government of the system of purchase of sterling in India by tender. The uneasiness caused by this new departure, however, was transient, and in the second week of May the appearance of export bills in Calcutta, Bombay and Karachi caused the rate to rise from $1/5\frac{1}{8}$ *d.* to $1/5\frac{1}{8}$ *d.* The acceptance of tenders by Government at $1/5\frac{1}{8}$ *d.* prevented any further rise in the market during this month, and early in June the market became slightly weaker owing to the ease of money and comparatively small export demand. Conditions continued to be quiet and the market rate remained in the neighbourhood of $1/5\frac{3}{8}$ *d.* until the beginning of September when the demand for money for financing the jute crop and export bills in Calcutta produced a much firmer tone. On the 30th August Government refused to accept tenders at $1/5\frac{3}{8}$ *d.* On the 7th September the full amount of £500,000 offered for tender by Government was allotted at $1/5\frac{1}{8}$ *d.* and Government announced an offer of £1 million for the following week. This amount was allotted, at $1/5\frac{3}{8}$ *d.* on the 15th September and it seemed likely that exchange would remain firm with a rising tendency. The amount offered for tender on the 21st September was, therefore, increased to £2 millions, but this large increase was taken by the market to mean that Government did not desire to see the rate of exchange rise appreciably and at the same juncture money suddenly became much easier. The result was a weakening of exchange, and by the first week in October the rate had again fallen to $1/5\frac{3}{8}$ *d.* Towards the end of the month a revival in the export demand produced a firmer tone and exchange remained steady in the neighbourhood of $1/5\frac{1}{8}$ *d.* till the last week in November, Government purchasing a considerable amount of sterling each week at $1/5\frac{1}{8}$ *d.* In the latter half of November the demand for money usual at the beginning of the busy season began to make its influence felt, while export bills appeared in Calcutta in increasing quantities. In consequence the market rate of exchange rose to 1/6*d.* on the 26th November and, in spite of large purchases of sterling by Government, continued to move upwards until it reached $1/6\frac{3}{8}$ *d.* about the middle of December. At the beginning of January it fell to $1/6\frac{1}{8}$ *d.* but remained very firm at this rate until the end of the month when weakness developed, and there was a drop of $\frac{1}{8}$. On the 1st February Government, who had not accepted tenders at less than $1/6\frac{3}{8}$ *d.* since the middle of December, decided to follow the market and accepted tenders at $1/6\frac{1}{8}$ *d.* This action of Government emphasised the weakness of the market, and during the subsequent week the rate fell to 1/6*d.* On the 8th February Government, still following the market, accepted tenders at 1/6*d.* and on the following day the market rate dropped to $1/5\frac{1}{8}$ *d.* During the next three weeks Government

indicated by their refusal of tenders at $1/5\frac{3}{8}$ d. that they were not prepared to purchase at less than 1/6d., and although the market was very dull, the rate remained at $1/5\frac{1}{8}$ d. as banks were not inclined to let it go very far below the Government buying rate. In the first week of March exchange began to strengthen again owing to considerable exports of seeds and cotton, and during this month it remained firm at $1/5\frac{3}{8}$ d., Government making considerable purchases each week at 1/6d."

Money Market Conditions in India during the Year.—
The Controller states that :—

"At the end of March, 1927, the bank rate stood at 7 per cent. and the cash balance of the Imperial Bank showed signs of increasing rapidly. During April the currency was contracted by Rs.10,33 lakhs of which Rs.8,33 was against rupee and sterling Government securities and Rs.2,00 lakhs against internal bills of exchange, but in spite of these large withdrawals of currency the cash balance of the Imperial Bank decreased by less than $3\frac{1}{2}$ crores during the month. Money was in good demand in Bombay for financing the Broach cotton crop, the rate for call money being $6\frac{1}{2}$ to $6\frac{3}{4}$ per cent., but towards the end of the month rates became easier in Calcutta. In May there was a distinct decrease in the demand for money, especially in Calcutta, but the cash balance of the Imperial Bank decreased slightly mainly on account of a further contraction of 2 crores by Government, and it was necessary to retain the bank rate at 7 per cent. until the 2nd June, when it was reduced to 6 per cent. During June money returned rapidly to the financial centres; the bank rate was reduced to 5 per cent. on the 23rd of the month, and at the end of the month money had become very easy. During July conditions continued to be easy; the bank rate was reduced to 4 per cent. on the 28th of the month, and at the end of the month call money was available in Calcutta at $1\frac{1}{4}$ per cent. in spite of the issue of the Government loan in the latter half of the month. Money remained very easy during August in spite of the issue by Government of 4 crores of treasury bills, but at the beginning of September the demand on account of the financing of the jute crop temporarily tightened up the market and the bank rate was raised from 4 to 5 per cent. on the 8th September. The intensity of the demand for financing jute, however, soon abated, and before the end of the month conditions were again very easy with the rate for call money at $1\frac{1}{4}$ to 2 per cent. These conditions continued during October and November in spite of the issue by Government of $1\frac{1}{4}$ crores of treasury bills each week. During November, however, a decrease in the cash balance of the Imperial Bank indicated the approach of the busy season and in December conditions changed rapidly. The bank rate was raised from 5 to 6 per cent. on the 8th December and to 7 per cent. on the 22nd December, the currency having been expanded by 4 crores against internal bills of exchange during the interval. On the 29th December the currency was expanded by 2 crores against British treasury bills, but in spite of this expansion the cash balance of the Imperial Bank had fallen to just under 11 crores by the end of the month. The market rates for money did not at once reflect the rise in the bank rate, mainly because heavy purchases of sterling by Government maintained the floating supply of credit. In January, however, these purchases decreased, and by the end of the month the market rates for money were more in accordance with the bank rate, the rate for call money being about 6 per cent. Meanwhile, the currency had been expanded by a further 6 crores, 1 crore against rupee securities, 1 crore against sterling securities, and 4 crores against internal bills of exchange, and at the end of the month the cash balance of the Imperial Bank was about $13\frac{1}{2}$ crores. For the remainder of the year money continued tight, the rate for call money in Bombay varying between 6 and $6\frac{1}{4}$ per cent, but owing to large repayments of treasury bills by Government there was no stringency. At the end of March the cash balance of the Imperial Bank had been reduced

to 11,67 lakhs, mainly on account of a net contraction of 1,67 lakhs, of which 67 lakhs was against British treasury bills and 1 crore against internal bills of exchange."

The Clearing House statistics for the year showed a total of 16,74 crores, as compared with 16,09 crores in 1926-27 and 16,88 crores in 1925-26. The Controller states that the outstanding feature of the year 1927-28 was the large increase in the Calcutta clearing statistics, due to the prosperity of the tea and jute industries.

The Public Debt.—The following table, abstracted from the Currency Report, shows the total debt of the Government of India, including Indian treasury bills issued to the Paper Currency Reserve, at the end of each of the last three years. The figures for 1927-28 are approximate, as the accounts for that year have not yet been closed :—

	31st March, 1926	31st March, 1927	31st March, 1928
	Rs. (lakhs).	Rs. (lakhs).	Rs. (lakhs).
<i>In India.</i>			
<i>Funded Debt.</i>			
Rupee Loans	3,68,29	3,74,44	3,72,30
Treasury Bills with the public ...	—	—	7,60
Treasury Bills in the Paper Currency Reserve	49,65	41,47	31,94
Total	4,17,94	4,15,91	4,11,84
<i>Unfunded Debt.</i>			
Post Office Savings Bank	27,23	29,51	32,00
Post Office Cash Certificates	20,97	26,68	30,71
Balances of Provident and allied funds	46,39	51,02	55,67
Total	94,59	1,07,21	1,18,38
Total India	5,12,53	5,23,12	5,30,22
<i>In England at 1s. 6d. to the Rupee.</i>			
<i>Funded Debt.</i>			
Sterling loans	3,55,13	3,53,45	3,62,24
Unpaid balance of India's war contribution	24,43	23,74	23,02
Capital value of liabilities undergoing redemption by way of terminable annuities	76,71	74,92	73,06
Total	4,56,27	4,52,11	4,58,32
<i>Unfunded Debt.</i>			
Balances of Provident and allied funds	28	36	25
Total England	4,56,55	4,52,47	4,58,57
TOTAL DEBT	9,69,08	9,75,59	9,88,79

The subjoined table shows the distribution of the debt :—

Distribution.	31st March, 1926 Rs. (lakhs).	31st March, 1927 Rs. (lakhs).	31st March, 1928 Rs. (lakhs).
Productive Debt—			
Railways	6,06,46	6,36,32	6,68,99
Posts and Telegraphs	12,87	13,38	13,96
Irrigation	3,44	3,44	3,61
Salt	81	85	88
Vizagapatam Port	65	97	1,35
Security Printing	—	52	60
<i>Total Productive Debt</i>	<u>6,24,23</u>	<u>6,55,48</u>	<u>6,89,39</u>
UNPRODUCTIVE DEBT OF CENTRAL GOVERNMENT	2,30,25	1,99,94	1,73,06
INCURRED ON ACCOUNT OF THE PROVINCIAL LOANS FUND	1,14,60	1,20,17	1,26,34
TOTAL	<u>9,69,08</u>	<u>9,75,59</u>	<u>9,88,79</u>

The total productive debt of the Government of India increased during the year 1927-28 by 33,91 crores, due almost entirely to capital expenditure on railway development, while the unproductive debt decreased by 26,88 crores. The internal debt, excluding the Provincial Government's debts to the Government of India, increased from 4,02,95 crores on the 31st March, 1927, to 4,03,88 crores on the 31st March, 1928. There was an increase of about 11 crores in the unfunded debt, due mainly to the sale of post office cash certificates and an increase in the balances of provident and allied funds, while there was a decrease of about 4 crores in the funded debt. Owing to the issue of the sterling loan, which will be referred to later, the external debt increased by 6,1 crores.

In the railways and irrigation projects, India possesses two very fine investments which should show increasing returns and a growing contribution to the relief of taxation.

The Year's Loans.—The Controller describes Government's public borrowings during the year as follows :—

The Rupee Loan was a 4 per cent. tax-bearing issue repayable at par on or after the 1st August, 1934, at three months' notice. The issue price was Rs.94/8/- per cent., giving a yield of nearly 5 per cent. inclusive of premium on redemption, assuming repayment in 1934 and about 4½ per cent. if repaid in 1937. Subscriptions to the loan were payable in cash, in 6 per cent. bonds 1927, or in 5½ per cent. war bonds 1928. In exchange for each Rs.100 of 6 per cent. bonds 1927 and 5½ per cent. war bonds 1928, tenderers were given Rs.100 of the new loan and a cash bonus of Rs.6/4/- and Rs.12/- respectively. The loan was open from the 18th July to the 30th July. The total amount of the subscriptions for the loan was Rs.19,53,79,100, of which Rs.7,20,39,200 were by tender of the 1927 bonds and Rs.4,12,25,700 by tender of 1928 bonds. The comparatively poor response to the Government offer was due mainly to the apprehension of early stringency in the money market following upon the heavy contractions of the currency earlier in the year and the fear of a consequent depreciation in the price of Government securities.

Sterling Loan. In January, 1928, a sterling loan was issued in London to provide funds for capital expenditure on Indian railways and to repay £5 million Indian Bills maturing on the 29th of that month. The loan took the form of £7½ million 4½ per cent. Stock issued at £91/10/- per cent., redeemable at par at the latest on the 1st June, 1968, the Secretary of State for India reserving to himself the right to give three calendar months' notice to redeem the loan at par on the 1st June, 1958, or on any half-yearly interest date thereafter. The loan was fully subscribed on the day it opened.

Prices of Rupee Securities.—During the year the progressive rise in the price of Government securities, which had been a feature of the last few years, was checked partly by the contraction of the currency during the first three months of the year and partly by the issue of treasury bills from August onwards. India's credit, however, both in the country itself and in London, has improved remarkably during recent years as the following figures, quoted by the Hon. the Finance Member in his last budget speech, clearly show :—

	Market price on—											
	1st Feb., 1923		1st Feb., 1924		1st Feb., 1925		1st Feb., 1926		1st Feb., 1927		1st Feb., 1928	
	Rs.	As.	Rs.	As.	Rs.	As.	Rs.	As.	Rs.	As.	Rs.	As.
5 per cent. Tax-free Loan, 1945-55 ...	88	4	96	10	97	15	100	12	107	5	106	10
3½ per cent. Indian Government Rupee Loan ...	57	0	66	0	66	9	70	8	77	7	75	15

The next table compares the prices of India stock and other stock in London on various dates, and clearly shows that the credit of the Government of India now stands considerably higher in the London market in relation to the British Government and other gilt-edged borrowers than it did in 1914 :—

	30th Apr., 1914	30th Apr., 1923	1st Feb., 1926	1st Feb., 1927	31st Dec., 1927
India 3 per cent. loan ...	£ 75½	£ 60½	£ 58	£ 59½	£ 62½
India 3½ " " ...	88½	70½	68	70½	72½
Local Loans 3 per cent. stock ...	87	69½	64½	63½	65
London County Council—					
3½ per cent. stock ...	97	79½	73	74½	73½
3 " " ...	81	68½	63	64	63½

As the Hon. Sir Basil Blackett stated in his budget address on the 29th February, 1928 :—

“ Last year I commented on the fact that the disparity between the prices of India 3½ per cent. rupee stock and India 3½ per cent. sterling stock was leading to very considerable transfers of money from India to London in order to take advantage of the higher yield of the sterling stock. This process has been continuing to a not inconsiderable extent, though checked by the final stabilisation of the rupee on a gold basis. It is significant that the disparity is much less now than it was last year. Nevertheless, the necessity for an external loan was partly due to the effects of this transfer of capital away from India, and if public and private transactions be taken together, I have little doubt that, in spite of the issue of a sterling loan of £7½ million in 1927-28, the

net amount of India's external indebtedness has been considerably decreased and not increased in the course of the last year. The increase during the year in our external indebtedness as a Government is considerably less than the amount of the sterling loan and the sterling debt is only £3½ million more than it was three years ago. During 1927-28 our total indebtedness has increased by 16 crores while our deadweight debt has decreased by 22 crores.

In the five years since the 31st March, 1923, when the era of deficits came to an end, the aggregate debt has increased by 1,13 crores, the productive debt has increased by as much as 1,89 crores, and the unproductive portion has been reduced by 76 crores. By the end of 1928-29 we hope to have just about liquidated the debt due to the five years of revenue deficits from 1918-19 to 1922-23, and if the recent rate of progress is continued, our unproductive debt should vanish altogether in about twelve years time."

The Budget, 1928-29.—In former reports will be found an account of the difficult period in India's finances between 1918-19 and 1922-23, during which deficits amounting to more than 98 crores of rupees had to be provided for. As a result of stringent economies, increased taxation and prudent finance, the tide turned in the year 1923-24 when a small surplus was realised. Since that year, thanks to a succession of good monsoons and the adoption of a cautious yet far-sighted financial policy, small surpluses have been the rule. In my report for 1926-27 I stated that the 1926-27 surplus of 3·10 crores would be reduced to 2·82 crores by the special remission of 28 lakhs of the Bombay Government's contribution for 1926-27, and that this sum of 2·82 crores would then be transferred in its entirety to a special reserve so that the revised estimate for 1926-27 would not exhibit either a revenue surplus or a deficit. The 1927-28 surplus of 3·64 crores would be supplemented by such a sum as might be required to be transferred from the special reserve in order that the out-turn of the year 1927-28 might also show neither a deficit nor a surplus. The revised estimates for the year 1927-28, like the original budget show neither a surplus nor a deficit. They indicate a total expenditure of 127·74 crores and a total revenue of the same figure including a special appropriation of 1,69 lakhs from the Fund. Exclusive of this last item, the variation in the net result amounted to only 3 lakhs, a tribute to the accuracy of the Finance Department's budgetting.

The Hon. the Finance Member, in introducing the budget for 1928-29, stated that the aggregate revenue was estimated at 1,32·23 crores and the expenditure at 1,29·60 crores, giving an estimated surplus of 2·63 crores. This surplus was all the more gratifying in view of the fact that the Government of India had sacrificed nearly a crore of customs revenue in the summer of 1927 by placing machinery and cotton mill stores on the free-import list in order to assist the depressed Indian cotton industry. Before considering the disposal of the surplus, however, it was necessary to consider the accumulated liability in respect of the bonus on cash certificates. Cash

certificates of the nominal value of 40 crores were outstanding on 31st March, 1928, and it was estimated that the accrued but undischarged liability for bonus would stand at about $5\frac{1}{2}$ crores on October 1st, 1928. Fifty lakhs had been included in the budget as the estimate of the actual payments of bonus, but the Finance Member pointed out that, as soon as the revenue position permitted it, Government would have to consider setting aside considerable sums from revenue in a separate fund in order to enable them to meet the full liability when called upon to do so. This contingency, however, need not deter them from utilising the surplus disclosed in the budget as a recurrent surplus. The Government of India accordingly proposed that 2,58 lakhs of the surplus should be applied to the final extinction of the provincial contributions, leaving a small surplus of 5 lakhs in the budget.

The budget imposed no new taxation nor did it provide for any remissions of taxation. In concluding the speech introducing the final budget of his most successful term of office, Sir Basil Blackett said :—

“ Intrinsicly, the financial position of the Government of India seems to me to be sound and prosperous. From 1929-30 onwards, it will be the privilege of this House and of my friend and successor, Sir George Schuster, to find no outside claimant to the recurring surpluses which I hope it will be their good fortune to enjoy in the coming years, and they will be free to turn their minds on the one hand to new directions in which money can be usefully laid out for India's advancement, and on the other hand to the re-adjustment of the burden of taxation and to those reductions of taxation, so welcome to tax-gatherer and taxpayer alike, which, apart from some minor cases and with the one big exception of the Cotton Excise Duty, have been beyond our reach in my term of office.”

The Railway Budget.—The Hon. Member for Commerce and Railways, in reviewing a most successful year for 1927-28, stated that the total receipts on the commercial lines were Rs.103 $\frac{1}{2}$ crores, which was nearly Rs.5 crores higher than the total for the previous year. The total expenditure at Rs.90 $\frac{3}{4}$ crores was higher by Rs.1 $\frac{1}{2}$ crores, but this increase was more than accounted for by the fact that interest charges had risen by Rs.1 $\frac{1}{2}$ crores owing to the capital expenditure incurred during the year. The surplus of receipts over expenditure on the commercial lines was Rs.12 $\frac{3}{4}$ crores, as against about Rs.9 crores in 1926-27 and in the budget. Out of this surplus the loss on the strategic railways absorbed Rs.1 $\frac{3}{4}$ crores and of the balance Rs.4 $\frac{3}{4}$ crores, under the operation of the convention, would go to the railway reserve fund, leaving Rs.6 $\frac{3}{4}$ crores as the contribution to general revenues.

In view of this greatly improved financial position Sir George Rainy announced a series of material reductions in third-class passenger fares on the East Indian, North Western and G.I.P Railways, in the rates for parcels and luggage and in certain goods rates which would particularly benefit the poorer class and the

agriculturists. So far as the budget figures for 1928-29 are concerned, the Hon. Member stated that :—

“ But for the reductions in rates and fares which we propose, we should have budgetted for an increase of Rs.1½ crores in the gross traffic receipts, the two basic assumptions being (1) a normal monsoon, and (2) a further growth in traffic but at a slower rate than in the current year. In view of the reductions in rates and fares we anticipate a fall of Rs.55 lakhs in the traffic earnings, but owing to the increase in the interest on the balances of the reserve and depreciation funds, our total receipts are expected to be only Rs.24 lakhs lower. On the expenditure side, working expenses are put at the same figure as in the previous year, making the fourth successive year in which they have stood at about Rs.62½ crores notwithstanding the extension of our lines and the increase in the traffic with which we have to deal. During the period the expenditure on depreciation (which is governed automatically by the amount of the capital at charge) will have risen from Rs.10½ crores to Rs.11½ crores, which means that the other working expenses will have fallen by Rs.1½ crores. This is a very satisfactory result and bears eloquent testimony to the resolute and continuous efforts of the Railway Board to secure economical administration. Operation expenses will, we anticipate, be about the same as in the current year, the increase in traffic very nearly offsetting a saving of Rs.15 lakhs we expect in our fuel bill. Under repairs and maintenance, taking warning by this year's lesson, we are budgetting for a reduction of Rs.63 lakhs, and this estimate, I may say, is the result of a very close examination of the number of locomotives, carriages and wagons likely to be repaired, and takes full account of the fact that on most of the principal railways there are little or no arrears to be made good. We hope also that the progressive modernisation of our workshops will again bring down the average cost of repairs.

Interest charges, owing to our new capital expenditure, will be higher by Rs.1½ crores, and the surplus profits of companies by a quarter of a crore. The latter increase, however, is due to special causes and will not recur. It is occasioned by the fact that on the 1st of January, 1929, our contract with the Burma Railways Company will expire, and the line will come under State management. It will be necessary, therefore, during the year to pay to the Company not only the surplus profits of the current year, but also those of the first nine months of 1928-29.

Our total receipts for the year we put at a little over Rs.103 crores, and the total charges (including the loss on the strategic railways) at Rs.94 crores, leaving a final surplus of about Rs.9 crores, of which general revenues will take Rs.5½ crores and the railway reserve funds Rs.3½ crores.”

New Railway Construction.— In my last report I stated that the provision made in the 1927-28 budget was for 48 lines covering 1,813 miles which are already in progress and 51 new lines extending to 2,827 miles, giving a total programme of 4,640 miles. I stated that each railway administration was charged with the duty of exploring every avenue that afforded scope for the construction of remunerative lines of a standard suitable to the traffic that might be expected. In order to facilitate the achievement of this object, it is not proposed to adhere to one rigid standard of construction. The Railway Board have laid down varying standards of construction in order that branch lines and extensions may be built to whatever standard seems most suitable to the area to be served.

During the past year 636 miles of new line were opened, and it is expected that a further 800 miles will be opened to traffic in

1928-29. Of the new lines which are already in progress it is expected to open within the present year the Daltonganj-Barkakhana section of the Central India Coalfields Railway, the Villupuram-Trichinopoly and the Dindigul-Pollachi lines in south India and a part, at least, of the Kangra Valley lines in the Punjab. A number of short branches on the Assam-Bengal and eastern Bengal systems are also likely to be opened during the year. Other projects of major importance, which are in hand but will not progress quickly enough to be opened next year are the Calcutta Chord Railway including the bridge over the Hooghly at Bally, the Lucknow-Sultanpur-Jaunpur, the Chiniot-Khushab cross connection in the Punjab, the Kalabagh bridge at Mari Indus, the Raipur-Vizianagram, the Sagaing bridge and Minbu-Pakokku project in Burma, both sanctioned during the past year, and the Trichinopoly-Manamadura Chord Line in south India. As the Hon. Member for Railways stated in introducing the railway budget :—

“ The lines which will still be under construction at the end of the year are mostly short branches or feeder lines to the main system, but in various parts of the country there are special features. Thus, in Burma and Assam, pioneer lines are being constructed to open out rich but undeveloped country. In Southern India the branches will serve densely populated tracts where the traffic should at a very early date yield an ample return on the capital invested. In the Punjab they are for the most part cross connections running from East to West and linking up the existing lines, most of which run from North to South ; while in Sind we hope to commence the feeder lines which are the natural consequence of the construction of the Sukkur Barrage.”

Further detailed information with regard to the allotments of capital by each separate railway for new constructions and other works can be obtained from the Indian Section, Department of Overseas Trade, 35, Old Queen Street, London, S.W.1.

The Reserve Bank Bill.—Any report dealing with events during 1927-28 would be incomplete without some mention of the Bill, which was introduced by the Government of India for the creation of a Reserve Bank of India which would take over the control of currency and credit and effect far-reaching reforms in the monetary and banking machinery of the country. As a result of strong opposition, based largely on political considerations, from a section of the Assembly, the Government on February 10th, 1928, withdrew the Bill and, in his speech on that occasion, the Hon. Sir Basil Blackett stated :—

“ Government must take it that the House prefers to continue the existing currency system and the existing machinery and methods of control of Indian currency and credit which, though frequently criticised by some of those who have been most active in opposing this measure, have given signal proof of their efficiency and value in securing stable monetary conditions for India during the period which has elapsed since the passing of the Currency Act of 1927 and, in the absence of a more effective demand for a change, the Government do not now propose themselves to take any further steps with a view to the introduction of the reform which the Reserve Bank Bill was designed to bring about.”

Security Printing in India.—The new Security Press of the Government of India at Nasik Road, Bombay Presidency, which has been largely created by, and is in charge of, Lt.-Col. Sir George H. Willis, C.I.E., R.E., was officially inaugurated by the Hon. Sir Bhupendra Nath Mitra, K.C.S.I., Finance Member, on April 14th, 1928. On that occasion Government issued the following statement of the plant, equipment and estimated output :—

“ Prior to 1860 there were no Government of India currency notes, and up till 1862 the Indian Postage Stamps were printed by the Survey of India from plates made at the Calcutta Mint.

In 1861 the Bank of England printed the first currency notes for India, and they were issued for the first time in March, 1862. The Bank has continued to print them from that date up to the present.

In 1862 also Messrs. Thos. De la Rue & Company first printed postage stamps for India, and they continued to hold the contract for this work until 1924. It was in view of the impending termination of this contract that the Government of India decided to provide for the printing of stamps in India, and later when the Bank of England contract neared expiry to print the Currency Notes also in this country.

As a result of their decisions printing works have been established at Nasik Road for producing all the security documents, *i.e.*, documents representing money value, required by the Currency Department, the Posts and Telegraphs, the Law Courts and the Taxing departments of the Central and Provincial Governments.

Nasik Road was selected as the site of the Presses on account of its climate, which is not subject to sudden and large changes of humidity and temperature, and also of its position on a main line giving direct communication to all parts of India.

The press for the production of stamps, postal and fiscal, and postal stationery, post cards and embossed envelopes was taken in hand after a demonstration had been given in Delhi in 1923 of the feasibility of carrying out the work in India. The ground was first opened in September, 1924, and the first printing took place in November, 1925.

The buildings, including quarters for the staff, cost just over Rs.18 lakhs, while the printing machinery and equipment accounted for a little more than Rs.8 lakhs, and the balance of nearly Rs.2 lakhs covered the electric power equipment, water supply, drainage, railway siding and the cost of the land, making a total cost of a little less than Rs.27½ lakhs in all. A Central Stamp Store for the whole of India has since been added at a cost of Rs.8½ lakhs.

The Currency note press was undertaken somewhat earlier than had been anticipated as the Bank of England expressed a desire to terminate the major part of the contract before its legal date of determination. It was found possible to meet the wishes of the Bank, and the buildings were therefore begun in August, 1926. They are now completed together with the quarters of the personnel at a cost of Rs.20 lakhs. During this period the machinery and equipment were installed at a cost of Rs.6 lakhs. The plant provides not only for the printing of 1½ million currency notes daily, but for the preparation of the plates and for new designs when required.

The following approximate figures for both the presses will convey some idea of the scope of the work :—

<i>Currency Note Printing.</i>		<i>Security Printing.</i>	
<i>Currency notes—</i>		<i>India and Central Stamp Store.</i>	
<i>Stamps, postal and fiscal, postcards, etc.—</i>			
Rs.26 lakhs ...	Total capital cost ...	Rs.36 lakhs.	
Rs.8 lakhs ...	Annual cost of paper ...	Rs.12 lakhs.	
1½ million notes (all values)	Daily outturn	Single postcards ...	10,50,000
		Reply post-cards ...	2,70,000
		Embossed envelopes et alia ...	4,00,000
25 tons ...	Weekly outturn ...	60 tons	
275 ...	Number of employees ...	600	
Working hours per week ...		47½	

Indian Joint Stock Companies in 1927-28.—Flotations.— Although the number of registrations has increased, the aggregate authorised capital shows a further reduction on the figure for the previous year, the index number falling from 29 to 24. Indian investors have not yet recovered confidence in local industrial enterprises since the great slump in 1921-22. The following statement shows the trend of registration in recent years:—

Year.	Companies registered.		Aggregate authorised capital.		Average authorised capital per company.
	Number	Index number (pre-war year=100)	Amount.	Index number (pre-war year=100)	
1913-14 (pre-war)	356	100	Rs.000's omitted. 66,91,53	100	Rs.000's omitted. 18,79
1921-22 ...	717	201	80,83,75	121	11,27
1922-23 ...	496	139	34,41,77	51	6,94
1923-24 ...	430	124	26,49,78	40	6,18
1924-25 ...	416	115	21,23,25	31	5,09
1925-26 ...	470	133	30,00,58	45	6,34
1926-27 ...	537	151	19,13,90	29	3,56
1927-28 ...	595	167	15,82,37	24	2,66

The amount of authorised capital is a very poor guide to the actual state of affairs, as in the great majority of Indian concerns the paid-up capital is only a small fraction of the authorised capital and companies in India go to allotment on very small subscriptions. During the past year increases in the authorised capital were noticeable under the heads of navigation, cotton and jute mills, tea gardens, coal mines and sugar factories. There were, on the other hand, decreases under banking, loan, investment and trust and most manufacturing enterprises.

Liquidations.—325 companies, with an authorised capital of Rs.24,14 lakhs, having ceased work, went into liquidation or were finally dissolved during the year 1927-28.

Indian Working Class Cost of Living Index. Bombay.—

This index figure, which is compiled by the Labour Office of the Bombay Government, has fluctuated during the year between 57 and 45 per cent. above the rates ruling in July, 1914, the tendency, however, particularly during the latter half of the fiscal year, being steadily downwards. It stood at 55 per cent. on March 31st, 1927, and at 45 per cent. on March 31st, 1928. The articles included in the index are cereals, pulses, other articles of food, fuel and lighting, clothing and house rent. The articles have been given the relative importance which each bears to the total all-India aggregate expenditure. No allowance is made for any change in the standard of living since July, 1914. The fluctuations during the past seven years are shown in the following table:—

(All items : percentage increase over July, 1914).

	1921	1922	1923	1924	1925	1926	1927	1928
	Per	Per	Per	Per	Per	Per	Per	Per
	cent.	cent.	cent.	cent.	cent.	cent.	cent.	cent.
January	69	73	56	59	57	55	56	54
February	62	65	55	56	57	54	55	48
March	60	65	54	54	59	55	55	45
April	60	62	56	50	58	53	53	44
May	67	63	53	50	56	53	52	47
June	73	63	52	53	54	55	54	46
July	77	65	53	57	57	57	56	47
August	80	64	54	61	52	55	57	46
September	85	65	54	61	51	55	54	45
October	83	62	52	61	53	55	51	—
November	82	60	53	61	53	54	50	—
December	79	61	57	60	55	56	51	—
Yearly average	73	64	54	57	55	55	54	—

Patents and Designs.—In his report for the calendar year 1927, the Controller of Patents and Designs states that, in all, 1,052 applications for patents were filed during 1927, as compared with 894 applications in 1926. Of these 1,052 applications 810 came from abroad and 242 originated in India, 115 of them bearing Indian names. The majority of the inventions were concerned with railways, agriculture, textiles or electrical apparatus. There were five applications relating to a novel process for the electrical deposition of india-rubber. The attention of Indian investors was directed mainly to irrigation, tea, tennis and other games, motor car improvements, railway signalling and permanent way construction.

As regards designs, 6,190 applications for registration were filed in 1927, as compared with 5,828 in 1926. An increase was noticeable in the number of designs from Indian proprietors, especially in classes 13-15.

Printed copies of accepted specifications are distributed to 26 centres throughout India and to Patent Offices in London and

Washington, where these and other publications of the Indian Patent Office may be seen free of charge. Copies of about 14,000 specifications can be obtained at a uniform price of Rs.1/- each on application to the Indian Patent Office, 1, Council House Street, Calcutta. Specifications and other publications of the British Patent Office are also available for inspection in Calcutta, at the Record Office, Bombay, and at the Office of the Director of Industries, Madras.

Civil Aviation.—I am indebted to Lt.-Col. F. C. Shelmerdine, O.B.E., Director of Civil Aviation in India, for the following summary of the principal developments of the year :—

“ The year 1927-28 has not witnessed any very great advance in civil aviation in India, and it has not yet been possible to open any regular air route. A good deal of spade work has, however, been accomplished, and there are actually more civil aircraft operating in India than has been the case before. The following is an outline of the progress made during the year :—

1. *Karachi.* Aeroplane hangar erected and Tarmac aprons and running up platforms provided. Meteorological Office and clerks' quarters erected. Mooring tower for airships purchased from Air Ministry, and provision made for erection.
2. *Gaya.* Land acquired for civil aerodrome.
3. *Dum Dum (Calcutta).* Work of raising the aerodrome to render it available for use throughout the year put in hand.
4. *Bombay.* Site for civil aerodrome selected.
5. Calcutta-Rangoon Route surveyed by land and from the air.
6. One scholarship awarded to an Indian youth for three years' training in civil aviation in England.

Provision has been made in the budget for 1928-29, for the following projects :—

1. Continuation of work on Dum Dum aerodrome, Calcutta.
2. Preparation of aerodrome at Gaya.
3. Subsidies for 4 light aeroplane clubs which, it is hoped, will start flying in September.
4. Subsidy for the Aero Club of India and Burma.
5. Scholarships for four Indians for training in Civil Aviation.

During the period under review, a considerable amount of survey work has been carried out by the Air Survey Company in Bengal, and air taxi work by the Bengal Air Transport Company in Bengal and Assam. It is hoped that next year it will be possible to proceed with the ground organisation required for the operation of the Calcutta-Rangoon route, and there is reason to hope that the Cairo-Basra air service operated by Imperial Airways Ltd. will be extended to India in the spring of 1929.

The airship shed at Karachi is approaching completion, but it is not anticipated that trial flights to India will be undertaken until 1929.

The following table gives details of flights to and across India during the period under review :—

1927-28.

Nationality.	Route.	Machines.	Engine(s).	Pilots.	Remarks.
British ...	India to England ...	D.H.9	Siddeley "Puma"	Flight-Lieut. J. J. C. Cocks, R.A.F., and Mechanic	Left Karachi on the 19th May, 1927, but nothing heard of him after he left Konieh for Constantinople on the 26th May, 1927, in spite of all efforts and enquiries made by the local authorities.
Dutch ...	Return flight from Batavia to Holland	Fokker F. VII (Monoplane)	Bristol "Jupiter VI" 425 h.p.	Messrs. Geysendorffer and Scholte	Mr. Van Learblack (American). The flight left Karachi on the 14th July, 1927, en route to Amsterdam
British ...	United Kingdom to Australia	D.H. 60 "Moth" ...	Cirrus Mark II. ...	Mr. D. M. Rooke ...	After carrying out repairs to his machine at Karachi, he continued his flight on the 19th July. While taking off at Aurangabad on the 4th August his machine crashed into a palm tree and fell to the ground. The pilot was injured and the machine damaged. The flight was subsequently abandoned.
French ...	France to Indo-China and return	Potaz XXV (Military)	Lorraine Dietrich 450 h.p.	Capt. Challe ...	Completed outward journey in 10 days, and carried a mechanic as passenger.
Dutch ...	Holland to Batavia and return.	Fokker F VII a ...	185 h.p. Armstrong Siddeley Lynx (3)	Messrs. G. A. Koppen and G. M. H. Frijns	Carried a passenger and mechanic. Outward flight from Amsterdam to Batavia completed in 10 days. Return journey completed in 12 days.

1927-28—continued.

Nationality.	Route.	Machines.	Engine(s).	Pilots.	Remarks.
British ...	England to Australia	Avro Avian "Red Rose."	Cirrus Mark II. ...	Flying Officer W. N. Lancaster	Carried Mrs. J. M. Miller as passenger. Forced to land in a paddy field at Dawbon across the Pazundaung Creek not far from the sea-plane base at Monkey Point, Rangoon, due to the breaking of a piston rod of the engine. When taking off at Muntok in the Dutch Indies, the machine crashed and was badly damaged. Pilot and passenger were both injured. The machine was repaired and the flight to Australia completed.
German ...	Germany to the Far East across India	"Germania" (Bi-plane)	—	Herr Koennecke, and Herr Herrmann	Damaged his machine when forced landing at Etawah, and delayed on account of repairs. Flight abandoned at Calcutta.
British ...	United Kingdom to the Far East and Australia	Supermarine Southampton Flying Boats	450 h.p. Napier Lion (2)	Royal Air Force ...	These boats set out on a leisurely 25,000 mile cruise to the Far East and Australia. Lt.-Col. F. C. Shelmerdine, Director of Civil Aviation in India, travelled as a passenger in one of the boats between Calcutta and Rangoon, and was thus given an opportunity of surveying from the air the proposed Calcutta-Rangoon air route.

1927-28—continued.

Nationality.	Route.	Machines.	Engine(s).	Pilots.	Remarks.
British ...	England to India (non-stop)	Fokker F. VII. (Monoplane) "Princess Zenia"	Bristol Jupiter ...	Capt. McIntosh and Mr. B. Hinkler	Forced to land near Podhajoe in South Poland owing to severe weather conditions, having flown about 2,800 miles in 24 hours. On return flight to London, again forced to land at Mazana, near Lemberg, seriously damaging the machine.
British ...	England to Australia	Avro Avian ...	Cirrus Mark II. ...	Mr. B. Hinkler ...	Distance from England to Australia covered in 16 days thus beating the record held by Sir Keith Smith, who in 1919 covered the flight in 28 days. Apart from this record, he has also estab- lished 4 others viz.: (a) first non-stop flight from London to Rome, (b) fastest journey from England to India, (c) the longest flight of a light aeroplane, and (d) the longest solo flight. In recognition of his great achievement, Capt. Bert Hinkler has been awarded the Air Force Cross by the King and £2,000 by the Australian Commonwealth Government, together with cheques of £1,500 from Australian newspapers and public subscriptions.

The Aero Club of India and Burma.—This club was formed during 1927 under the patronage of H.E. the Viceroy. The Commander-in-Chief is the president and leading officials, politicians and business men, both European and Indian, are on the General Committee. The objects are to develop civil aviation and, in particular, flying clubs throughout India. Clubs have already been formed in Delhi, Calcutta, Bombay and Karachi, and negotiations are taking place with regard to Madras and Rangoon. Flying will probably begin during the cold weather of 1928-29, and it is hoped that an increasing number of clubs will receive Government support as time goes on. Eight British "Moth" aeroplanes have already been ordered under the Government subsidy scheme, and the secretary of the club anticipates that there will shortly be an increasing market for the sale of machines to private individuals. British aircraft manufacturers would do well to pay attention to Indian requirements and to arrange for adequate representation on the spot. They are first in the field, have a deservedly high reputation for efficiency and thoroughness, and should follow this up by giving adequate service and attention to the market. All inquiries with regard to the Aero Club requirements should be addressed to the Secretary, Aero Club of India and Burma, Ltd., Cashmere Gate, Delhi.

Wireless Telegraphy.—I am indebted to the General Manager of the Indian Radio Telegraph Company, Ltd., for the following note, dated 3rd May, 1928, with regard to the development of wireless communication in India :—

"Wireless Beam Service between Great Britain and India."

The Wireless Beam Stations of the Indian Radio Telegraph Co., Ltd., were inaugurated by H.E. the Viceroy on July 23rd, 1927. The date is notable as the first time reciprocal wireless communication was established between the United Kingdom and India, His Majesty the King Emperor being graciously pleased on that occasion to exchange messages with H.E. the Viceroy. As the system had not then passed the official tests required by the British Post Office the Service was not actually opened to the public until 5 a.m. on Tuesday, September 6th, 1927.

The success of the new service was immediate and the volume of traffic at the outset considerably in excess of the most optimistic anticipations. The fact was in itself somewhat a handicap as the highly trained staff which had been assembled beforehand was found to be inadequate, and the management was faced with the difficult problem of expanding the staff and training telegraphists to handle this high speed traffic simultaneously with the operation of the service.

The aim of the company is to afford the public a cheap, accurate and speedy means of communication, and in furtherance of this policy negotiations are now being conducted with the Indian Government with a view to obtaining facilities for the more rapid distribution of traffic over inland lines.

The extension of the system to countries not at present served is also being followed up actively, and as soon as sanction is received from the Government of India and arrangements with other countries for the reciprocal stations completed, the necessary extensions for this purpose will be put in hand.

In addition to the development of new Beam Telegraph Services the policy of the Company includes inter-Continental telephony and "facsimile" reproduction at a later date.

Broadcasting Installations.

During the past year the Engineering Department of the Indian Radio Telegraph Company installed the two Marconi 12K.W. Transmitters at Bombay and Calcutta respectively, which stations are giving every satisfaction, and as broadcasting develops further installations will be required.

Point to Point Wireless Services.

During the past year the use of wireless for communication between various stations or places in India has not advanced to any extent, but many enquiries have been dealt with, and it is anticipated that wireless telephony will be installed in several of the Indian States. Extensions have been made to the wireless establishment of the Burma Military Police, who are also considering further considerable extensions. It is also expected that considerable development in the use of wireless for police purposes can be anticipated.

Wireless Beacons and Direction Finding Stations.

Various port authorities are considering the installation of wireless beacons for direction finding operations. The value to shipping and to the safety of life at sea has been so ably demonstrated in many parts of the world, it is hoped such installations will be introduced with advantage by the port authorities now considering such method.

Public Address Equipments.

The Indian Radio Telegraph Company have given several successful demonstrations with their Public Address Equipments, and there is quite a demand arising in India for Public Address functions and for Band amplification. The I.R.T. Co. hope to develop this business, and will keep in stock the latest and most-up-to-date equipments which can be installed at the shortest possible notice and operated by a trained competent staff.

Future Developments.

Apart from the inter-Continental telegraphic services there appears to be a considerable field for the development of wireless in India. It is admittedly suited for police outposts such as those mentioned above, for coastal communication with lighthouses and lightships, and as an aid to navigation to both ships and aeroplanes with the anticipated development of commercial aviation in India for aerodrome and meteorological purposes, it is anticipated there will be considerable developments on these lines in India in the near future."

Broadcasting.—The following note has been courteously provided by the Acting General Manager of the Indian Broadcasting Company, Ltd., Bombay :—

"Broadcasting in India is now an established fact, and a regular service, based on the practice of the B.B.C., is in operation from the two stations of the Indian Broadcasting Company. The Bombay station was opened on 23rd July, 1927, by His Excellency the Viceroy, and the Calcutta station on 26th August, 1927, by His Excellency the Governor of Bengal.

As has been stated in a previous report, the power of both stations is the same as 2LO., London. It is an interesting fact, however, that reception ranges appear to be much greater in India than in the British Isles. Regular reception of the stations is reported from places as far distant as the North-West Frontier Province and Ceylon. The wave-length of the Bombay station is 357·1 metres and its call-sign is '7BY,' while the wave-length of the Calcutta station is 370·4 metres and its call-sign is '7CA.' At the present time the number of hours of broadcasting is four on weekdays and three on Sundays, from each station. A quarter of this time is allocated to morning transmissions for the benefit of traders who may wish to demonstrate sets.

Instances of special transmissions during the year under review are the broadcasting of (1) the final of the All-India Rugby Football Tournament, from the Cooperage Football Ground, Bombay, on 17th September, 1927; (2) the relaying of speeches from the Old Town Hall, Bombay, on 30th November, 1927, on the occasion of the Annual Dinner of the St. Andrews Day Society, Bombay; (3) an eye-witness account of the arrival of H.M. King Amanullah Khan of Afghanistan at Bombay on 14th December, 1927; and (4) the relaying of speeches by H.E. the Governor of Bombay and the Agent of the B.B. & C.I. Railway at the Opening Ceremony of the Suburban Electric train service on 5th January, 1928. Running commentaries on football matches have also been broadcast from the Calcutta station as well as eye-witness accounts of the Military Searchlight Tattoo, which took place at Fort William, Calcutta, on 23rd February, 1928, and was repeated by request. The Calcutta station has also carried out several special broadcasts during the year. Another interesting feature of the programme has been the successful relaying by the Bombay station, on several occasions, of the Dutch short-wave station, P.C.J.J., and of the short-wave station at Java, Dutch East Indies. It is expected that when the British experimental short-wave station, '5SW,' transmits programmes at an hour more suitable for Indian listeners, the Company will relay this station also, and give residents in India an opportunity of hearing something of the programmes of the London station on simple crystal sets. At the present time the earliest hour at which such a broadcast can be carried out is 12.30 a.m. (Indian Standard Time); which is rather too late at night. At the 5-H fete, which was held in Bombay in February, 1928, one of the streets of the "English Village" was taken by wireless dealers and this did much to foster trade; many excellent demonstrations being given.

At the end of April, 1928, the number of dealers who had become members of the Indian Broadcasting Company, in order to import wireless apparatus, and who pay tribute to the Company, was 170. A list of these firms and individuals may be consulted at the Indian Section of the Department of Overseas Trade, London, S.W.1. The imports of wireless apparatus into India were £37,000 in 1926-27, but this figure has been increased to £118,000 for the year 1927-28. The Indian Broadcasting Company is gradually establishing itself, and the total number of receiving licenses which have been issued is about 5,000. Activity on the part of the Government in the tracking and prosecuting of persons using receiving sets without licenses is doing much to stimulate applications for the latter.

It is the intention of the Indian Broadcasting Company to open further stations as soon as the financial position will admit of these. Efforts are already being made to raise further capital for this purpose. The sites of the proposed new stations will probably be located in the neighbourhood of Lahore or Delhi, and Madras.

The Indian Broadcasting Company publish a fortnightly paper called 'The Indian Radio Times,' which gives a fortnight's programmes, in advance, for both of the Company's stations. This paper forms an excellent advertising medium for wireless firms, as it is in constant use for a fortnight and circulates among potential buyers of wireless components, parts, etc."

Far Eastern Association of Tropical Medicine, Congress in Calcutta.—The Seventh Congress of the Far Eastern Association of Tropical Medicine, which was held in India for the first time, was opened by H.E. the Governor of Bengal in Calcutta on December 5th, 1927, and was an unqualified success. Over 900 delegates from all over the world, including many of world-wide reputation, participated in the proceedings, which were also attended by a delegation from the League of Nations.

From the point of view of British economic interests the most useful feature of the Congress was the commercial exhibition of drugs, instruments and general medical and surgical supplies and allied products. There were some 42 stalls, including those of several well-known British houses. There was a prominent display of German drugs and instruments which attracted the interest of Indian doctors, to many of whom cheap price is the prime consideration. The Department of Overseas Trade circulated to likely firms in the United Kingdom details of this exhibition and the names of individuals who would be prepared to handle exhibits several months in advance, but the response was most disappointing. One specialist, who was sufficiently enterprising to take this opportunity of visiting India, assured me that the results exceeded his most sanguine expectations and that, during the week, he had interviewed no less than 250 delegates, both European and Indian, from all parts of British India and the native States.

Report of the Royal Commission on Agriculture in India.—The voluminous and comprehensive report of the Royal Commission on Agriculture in India, which embodies the conclusions and recommendations of the Marquess of Linlithgow and his colleagues after an investigation which covered the greater part of two years, was published by the Government of India at the end of June, 1928, and may be seen at the Department of Overseas Trade.

The principal recommendations are :—

- (1) The establishment of an Imperial Council of Agricultural Research with a fund of Rs.50 lakhs.
- (2) The formation of land mortgage banks with the assistance of the Government.
- (3) The establishment of regulated markets as a means of solving the cultivators' marketing problems.

The Commission express their considered opinion that "the greatest hope for the salvation of the rural masses from their crushing burden of debt rests in the growth of a well-organised co-operative movement."

As I have frequently stated, British export interests are vitally concerned with any developments which may result in the improvement of the standard of living and the increased prosperity of over 70 per cent. of India's population. They would do well, therefore, to study the conclusions of the report. British manufacturers, in addition, have two direct points of contact with the problem in the supply firstly of fertilisers and secondly of agricultural machinery and implements. The Commission summarise their findings on these two questions as follows :—

Fertilisers.

- "(1) The development of the manufacture of, and the local market for, sulphate of ammonia in this country is satisfactory.
- (2) No further investigation under government auspices of the possibilities of manufacturing synthetic nitrogen in India is at present required.

(3) The objections to the establishment by the Government of India of a central fertiliser organisation subsidised by firms dealing in fertilisers are such that this course cannot be recommended, but the establishment by fertiliser firms of their own research stations working in co-operation with the agricultural departments and other bodies interested in the fertiliser question is to be welcomed.

(4) Neither an export tax on bones, bone meal or fish manures nor the total prohibition of such export can be justified.

(5) A thorough investigation of the economics of the bone-crushing industry is required before the establishment of bone-crushing factories at suitable centres can be recommended.

(6) The known deposits of natural phosphates in India offer no important possibilities as a source of fertilisers.

(7) No necessity at present exists for legislation against the adulteration of fertilisers.

(8) The railway authorities should keep under constant review the possibility of giving further concessions for the transport of fertilisers."

They refer at some length to the proposal submitted to them by the British Sulphate of Ammonia Federation, Ltd., and Nitram, Ltd., for the establishment by the Government of India of a central fertiliser organisation on which the Imperial and provincial agricultural departments as well as the important fertiliser interests would be represented. They state that :—

"The two companies, which are already expending £23,000 annually on research and propaganda in India, expressed their willingness to increase this amount to £50,000, the additional amount to be handed over to a central organisation constituted in the manner they suggest, provided that an equal sum is contributed by Government. The companies have made it clear that the research and propaganda they contemplate would be on the use of fertilisers generally, and would not in any way be confined to that of the products they manufacture or sell. This offer, though not disinterested, is undoubtedly generous and we have given it our most careful consideration. We regret, however, that we are unable to see our way to recommend its acceptance. We cannot but feel that, whatever safeguards were imposed, the work of, and the advice given by, an organisation, at least half the cost of which was borne by firms closely interested in the subject matter of the investigation, would be suspect and would thus be deprived of much of its usefulness, especially since, as we have pointed out, the agricultural departments in India are not yet in a position to pronounce authoritatively on the relative advantages of natural and artificial fertilisers. We, therefore, consider it preferable that the agricultural departments should remain entirely independent in this matter, but we need hardly say that we would welcome the establishment by the two firms mentioned, or by any other fertiliser firms, of their own research stations in India working in the fullest co-operation with the agricultural departments, the Indian Tea Association, the Indian Central Cotton Committee, and any other bodies interested in the fertiliser question. So much work remains to be done on the manurial problems of India that it is desirable that every possible agency should be employed on it. To the supply by the fertiliser interests of free samples for trial by the agricultural departments there can, of course, be no objection but we do not consider that any financial assistance beyond what is involved in this should be accepted."

Machinery and Implements.—The Commission's principal conclusions are as follows :—

"(1) In so far as cost is a deterrent to the adoption of even comparatively inexpensive implements, the agricultural departments would do well to

consider the possibilities of mass production of the wooden parts of such implements.

(2) The agricultural engineering sections of the agricultural departments should be completely re-organised and should be, in all respects, integral parts of the departments.

(3) In all provinces in which pumping and boring operations are in progress on a considerable scale, the engineering section should be divided into two branches, one for work on agricultural machinery and implements, and the other for pumping and boring.

(4) Work on water-lifts should be entrusted to that branch of the engineering section from which it is likely to receive the greatest attention. In provinces where wells are numerous, it might be desirable to entrust the work to a separate branch.

(5) All branches of the agricultural engineering section should be under the control of a senior engineer who would himself be under the control of the Director of Agriculture.

(6) The officer in charge of the work on agricultural machinery and implements should be primarily an engineer and secondarily a farmer.

(7) The relation of the capacity of the draught cattle in India to the implements they are required to draw is a problem which requires investigation.

(8) Exhaustive trials under the cultivator's conditions should be carried out in order to test the comparative merits of the country and the inversion plough.

(9) The aim of the agricultural departments should be the evolution of a small number of types of implements and machinery suitable for a wide range of conditions and suitable also for mass production.

(10) A thorough investigation into the economics of power cultivation is specially called for in the Central Provinces with a view to the possibility of reclaiming areas infested with "kans" grass.

(11) Railway freight rates on agricultural machinery and implements should be re-examined, and where possible, concessions should be given.

(12) The claim by manufacturers in India for a rebate of the import duty on iron and steel used in the manufacture of agricultural implements and machinery should be investigated by the Indian Tariff Board.

(13) The term "agricultural implements" in the Tariff Schedule should be interpreted in the sense most favourable to the interests of the cultivator.

(14) Peripatetic demonstrations of the use of improved implements should be given.

(15) Suitable arrangements should be made by agricultural departments, or by manufacturers in consultation with them, for hiring out the more expensive implements and machinery.

(16) Agricultural shows provide a useful means of following up the demonstration work of the agricultural departments."

British implement manufacturers are not likely to find very much information in the report which would be of definite, practical advantage to them. One important fact emerges, however, which is that any sales, propaganda or research work, which they may undertake in India, should be carried out in co-operation with the officers of the departments of agriculture. The market is still too vast and insufficiently developed to warrant any widespread organisation working direct among the rayats., The central organisation at Pusa and the agricultural officials and engineers in each province provide, however, a most useful medium for operations. By utilising this organisation British makers would

ensure that they were working on the right lines and would obviate the almost insuperable difficulty of granting credit which would at once arise in the case of direct dealings with cultivators.

The Roads Development Committee.—In my last report I traced the development of the movement towards a co-ordinated road policy in India. I described the formation of the Indian Roads and Transport Development Association, Ltd., comprising the motor, oil, tyre and transport interests and the principal users of roads, and gave an account of the debate in the Council of State on February 9th, 1927, during which the whole question was ventilated, and the Government of India promised to appoint a committee of the Legislature to investigate the problem.

On November 3rd, 1927, the Government of India in the Commerce Department issued a resolution announcing the appointment of a Road Development Committee in the following terms :—

“The following resolution on the subject of road development was unanimously adopted by the Council of State on February 9th, 1927 :—That this Council recommends to the Governor-General-in-Council to appoint a Committee including members of both Houses of the Central Legislature to examine the desirability of developing the road system of India and the means by which such development could be most suitably financed and to consider the formation of a Central Road Board for the purpose of advising in regard to and co-ordinating the policy in respect of road development in India.

In accordance with this resolution the Governor-General-in-Council, after consultation with the Local Governments, has decided to appoint a Committee consisting of members of the two chambers of the Indian Legislature with the following terms of reference :—(1) to examine the desirability of developing the road system of India, and, in particular, the means by which such development could most suitably be financed ; and (2) to consider, with due regard to the distribution of central and provincial functions, whether it is desirable that steps should be taken for the co-ordination of road development and research in road construction by the formation of a central road board or otherwise.

The following gentlemen have agreed to serve on the Committee :—

Chairman : Mr. M. R. Jayaker, Bar.-at-Law.

Members : Diwan Chaman Lal, Sir Geoffrey Corbett, Sir Arthur Froom, Kumar Ganganand Sinha, Raja Ghazanfar Ali Khan, Lala Lajpat Rai, Mr. Mahmood Suhrawardy, Mr. Md. Anwarul Azim, Mr. Muhammad Ismail Khan, Dr. U. Rama Rau, Mr. K. V. Rangaswamy Ayyangar, Sardar Shivdeva Singh Uberoi and Mr. E. F. Sykes. Mr. H. F. Knight, I.C.S., will act as the Secretary, and Mr. K. G. Mitchell as Technical Adviser to the Committee.

The Committee will assemble immediately at New Delhi to decide its procedure. It is desired that the Committee should obtain and consider the views of all Local Governments and should also examine such persons, associations and other bodies as it thinks necessary. Persons who desire to be called as witnesses should apply in writing to the Secretary, care of the Department of Commerce, Government of India, New Delhi, giving their full names and addresses together with a brief memorandum of the points in regard to which they desire to give evidence.

The Government of India hope that the Local Governments and Administrations will afford the Committee all the assistance which it may require, and will comply with any request for information which may be addressed to them by it.”

Evidence of the Indian Roads and Transport Development Association.—A questionnaire was issued by the Committee and both written and oral evidence was taken from Government Departments, Public Bodies and private interests in all parts of the country. The views of the Indian Roads and Transport Development Association, which were stated at length before the Committee, are summarised in the following note issued by them :—

" (1) That a limit should be set on the total amount of tax that a motor vehicle user should pay.

(2) That this limit should not exceed at this stage an equivalent of 8 annas per gallon of petrol used (this 8 annas to cover the present 4 annas petrol excise, the present Municipal taxes and local Board and Provincial taxes and any contemplated additional tax on petrol).

(3) That a Central Road Board should be formed.

(4) That this Road Board be advisory and also have certain controlling powers.

(5) That the Government of India be called upon to pass an act abolishing all Municipal and Local Board Taxation on motor vehicles in the provinces.

(6) That the first essential function of the Central Road Board should be the centralisation of the collection of all taxation on motor transport.

(7) That when this comes into force, provinces be reimbursed from the Central Road Board funds. That the amount of compensation given should be assessed at an amount sufficient to enable them to guarantee a loan to be utilised to replace the taxation which has been cancelled.

(8) That any balance remaining with the Central Road Board be used to raise a Central Loan and Sinking Fund. This loan to be used to further assist provinces in through road development and the building of bridges, etc., and the improvement of existing roads.

(9) That as soon as finance permits the Road Board be further supplied with funds derived from the existing 4 annas excise on petrol and a sum from Customs duty-equivalent to any proposed reduction in Custom duty."

Report of the Committee.—The report of the Committee was due to be signed in the first week of July, 1928, but will probably not be published until later in the year. Consequently it is not possible to give their actual findings. In an Associated Press message, however, which has been published in the press, it is conjectured that the Committee will recommend, as a road development tax, the imposition of a two-anna tax by the Central Government on every gallon of petrol produced in, or imported into, India. The message also states that :—

"the Commissioners desire the establishment of a convention that the Assembly should annually vote the proceeds of this tax to a separate road account. A standing Committee of the Central Legislature to deal with roads is also suggested. The grants from road account should be given to provinces for the development of roads.

In regard to the formation of a Central Board the Committee, it is understood, suggest the following measures :—

Co-ordination in regard to road development and road construction, and an annual road conference, with the Central Government Member in charge as Chairman, the members of the Standing Roads Committee, the representatives of the other departments of the Central Government, the Provincial Ministers and their advisers, and the representatives of the Indian States as members, and the Road Engineer of the Central Government as Secretary.

The subjects for discussion at such conferences are the classification of roads, co-ordination with other methods of transport, road construction research, the taxation of transport, including motor vehicles, their regulation, registration, licensing and road statistics and intelligence and the introduction of ministerial responsibility. The Government of India should, it is suggested, contribute to provident funds for specific damages done to provincial roads by army vehicles. Import duty on parts and accessories of motor cars should be reduced to fifteen per cent.

The Committee, it is understood, suggest that motor vehicle licence fees be so graded as to control passenger services. The abolition of road tolls is also urged."

The Indian Cinematograph Committee.—The Government of India, by a resolution in the Home Department of October 6th, 1927, appointed a committee which was composed as follows :—

Chairman :

Diwan Bahadur T. Rangachariar, C.I.E., Vakil, High Court, Madras.

Members :

The Hon. Khan Bahadur Sir Ebrahim Haroon Jaffer, Kt.

Col. J. D. Crawford, D.S.O., M.C., M.L.A.

Mr. K. C. Neogy, M.L.A., Vakil, High Court, Calcutta.

Mr. A. M. Green, I.C.S., Collector of Customs and Member of the Bombay Board of Film Censors.

Mr. J. Coatman, M.L.A., Director of Public Information, and

Mr. G. G. Hooper, M.C., I.C.S., as Secretary.

with the following terms of reference :—

(1) to examine the organisation and the principles and methods of the censorship of cinematograph films in India ;

(2) to survey the organisation for the exhibition of cinematograph films and the film producing industry in India ;

(3) to consider whether it is desirable that steps should be taken to encourage the exhibition of films produced within the British Empire generally and the production and exhibition of Indian films in particular ; and to make recommendations.

After an exhaustive inquiry, extending over eight months, the Committee presented its findings to Government in June, 1928, and the report was published on August 7th, 1928. The report is a unanimous one, but the three European members have appended a minute of dissent with the general argument underlying Chapter IV which deals with the measures proposed for encouraging production, distribution and exhibition of Indian films, and in particular with the recommendations regarding a quota for Indian films and the grant of financial aid at the expense of public funds.

Space does not permit of any detailed account of the numerous recommendations of the Committee, which can be seen by those interested at the Indian Section, Department of Overseas Trade, 35, Old Queen Street, London, S.W.1. The principal recommendations are :—

(1) The creation of a Cinema Department, to form part of the Commerce Department of the Government of India, consisting of an Advisory Committee with a Central Cinema Bureau as its executive branch. The functions of the Cinema Department should be generally to advise, guide and assist the trade

and industry and work for its improvement. Advice and assistance in technical matters would be given by the experts of the Bureau and advice on the business aspects—finance, business management, etc.—would be supplied by the Advisory Committee, which should include experienced men of business.

(2) The creation of a Central Indian Board of Film Censors at Bombay to consist of seven or nine members with a majority of Indian non-officials and a non-official Indian Chairman.

(3) With the double object of finding an outlet for suitable Indian films and removing the unsatisfactory feature that Indian films are excluded from a large number of the well-equipped cinemas in India, the Indian members of the Committee recommend that a qualified quota system for Indian films be imposed for a period of ten years. This recommendation, however, is strongly opposed by the European members of the Committee.

From the point of view of British suppliers of films to the Indian market, perhaps the most interesting feature of the report is the definite statement that it is *not* recommended that any steps be taken to give any special preference or encouragement to films produced within the Empire. The Committee are unanimous on this point. They state that :—

“ Considering the question on its economic merits also we are satisfied that there is no necessity for any preferential treatment for the admission of British films in this country. The chief exhibitors in this country, including Madan's, are not to any great extent tied down by that system of blind and block booking which prevails in England and in other parts of the Empire. Most of them are only too ready to take British films, and some of the chief exhibitors very often prefer British to other films. While, as we have stated, there is a small modicum of compulsion in this country also on exhibitors to take films from one source alone, still they are generally free to take any films which they consider that the public will fancy. Their freedom of choice is not materially restricted.

Further, there are a large number of cinemas in India which cater mainly for European audiences. These audiences being largely British, have a natural preference for British films. In such cinemas a good British film generally draws larger audiences than films of other nationalities. Figures supplied to us by one of the leading exhibitors showed conclusively that the receipts in his theatre from British films were on the average greater than those from American or other films.

A considerable footage of British films is now being imported annually by each of the four leading importers. Moreover, from the figures we have examined of the import into India of films from the United Kingdom compared with those relating to production there during recent years, India may be said to have taken an amount nearly equivalent to the whole of the output in the United Kingdom. Taking feature films alone, which are the chief concern, we find that in 1925 India imported from the United Kingdom 20 as against 34 films produced there ; in 1926, 27 against 26, and in 1927, 27 against 48. That is, taking all the three years together, against 108 films produced in England 74 films have been taken. In other words, an amount equivalent to 70 per cent. of the films produced in England has been imported into this country. Examined by footage, the figures are even more telling. During the three years 1925 to 1927, the total production in the United Kingdom of feature films was approximately 648,000 feet, and during the three years 1925-26 to 1927-28, there passed through the various Indian Censor Boards broadly 560,881 feet of British feature films. The total quantity of British films imported (including both news and feature films and copies) was 596,686 feet in 1925, and 726,222 feet in 1926. The figures of production and export to India were furnished to us by His Majesty's Trade Commissioner in India. 211.

There has been no complaint during our inquiry throughout India and Burma, either on account of forward contracts or any predilections of exhibitors, about British films not gaining admittance or that any films were refused exhibition in this country.

No artificial aid is therefore needed to advance the British film trade in this country. We entirely endorse the remarks of the Australian Board of censors in their report for 1925 : " If fewer British films are imported into this country the reasons are generally well known. The prices have something to do with it ; the quality has something to do with it. Whereas other countries have got agencies here, British producers are scarcely represented at all." As in Australia, here also there is no accredited representative of the British film industry. When British Empire films can show the quality and finish and can be had for the same prices as other Western films, there will be no difficulty in those films finding such market as is available in this country. In fact the old and strong trade connections between India and Britain and the natural predilection of Britons in India do give British films a definite preference. It is no good to India to substitute artificially one class of non-Indian films for another. Our aim will be, and should be, to remove the non-Indian grip on the screen."

A further important recommendation is that if non-Indians should at any time threaten to acquire large cinema interests in India, otherwise than under the conditions prescribed for participation in the quota system, Government should arm themselves by legislation with powers to exclude them from operating.

While the European members of the Committee are opposed to the quota system, they agree with their colleagues that Government should arm themselves with legislative powers if, and when, foreign domination becomes imminent or probable.

CHAPTER II.

THE RUPEE TENDER AND ITS IMPLICATIONS.

In previous reports during the past seven years I have traced with some care the gradual steps taken by the Government of India to give effect to their avowed policy of developing the purchase of stores as far as possible in India, of granting a preference to articles manufactured or partly manufactured in the country and of utilising the activities of the Indian Stores Department in Delhi/Simla as a lever to stimulate the local production of such articles.

In 1924 the rules for the supply of articles required to be purchased for the public service were revised and considerably modified, the main features of the new rules being the assertion of a more definite preference for stores produced and manufactured, wholly or partly, in India, an important extension of the power to purchase imported stores and the introduction of a central purchasing agency in India, viz., the Indian Stores Department.

This development, however, failed to satisfy either the Indian politicians in the Legislative Assembly or the representatives of British merchants established in India; who joined hands in calling for the introduction of a system, known as the rupee tender system, whereby purchases of stores would normally be made in India as a result of tenders called for in India, payment being made in rupees. These proposals were strongly supported by the officials of the newly-created Indian Stores Department, who naturally wished to increase the turnover of their department and so place it on a paying basis. The Secretary of State for India, in response to representations made by the Government of India, voluntarily agreed to relinquish in favour of the Government of India his control over stores purchase matters, with the exception of certain lethal weapons, munitions of war, technical apparatus and equipment and other stores required by naval, military or air forces of the Crown in India for which drawings, patterns, specifications or designs had been prescribed by the Admiralty, War Office, Air Ministry, Government of India or Commander-in-Chief in India. These, he stipulated, should still be obtained by indent on the India Store Department, London.

Armed with this authority the Government of India set up in 1927 an inter-departmental Committee, including representatives of the Industries Department and Railway Board, to draw up revised stores rules which would provide for the inauguration of a rupee tender system applicable to the purchase of stores (other than printing and stationery stores) for the Government of India, including State railways, and for provinces other than Governors' provinces. The negotiations were somewhat protracted as the Railway Board were faced with the difficulties of purchasing

railway rolling stock and material of highly complex design without the advice of their consulting engineers and technical advisers in London. Early in 1928, however, Messrs. Rendel, Palmer & Tritton, the consulting engineers to the Government of India in respect of all State railways, agreed to open a branch office in Calcutta before the end of the year. After some months further consideration the revised rules were finally approved by the Government of India and were published for criticism in September.

The following were the terms of the Government resolution :—

Resolution, Simla, the 13th September, 1928.—Under the existing rules for the supply of articles for the public service which were sanctioned in 1924, articles which are not manufactured in India must, except in certain specified cases, be purchased through the India Store Department, London. Where tenders are called for by that Department, they have to be made in terms of sterling and where the necessity arises of making a choice between the Indian and the foreign article, a close comparison of the tenders offered in India in rupees and the tenders offered in London in sterling is required. The view has been held in many quarters that the existing principles and procedure are not those best calculated to advance the general policy of Government in this matter, viz., “to make their purchases of stores for the public service in such a way as to encourage the development of the industries of the country to the utmost possible extent, consistent with economy and efficiency.” It has been strongly urged that the introduction of a system providing for the purchase in India, as far as possible, of all articles, whether Indian or foreign, would best serve the interests both of Indian industrialists and of purchasing departments. These views were reflected in a resolution adopted by the Legislative Assembly in February, 1924, which indicated that in view of the Assembly the existing system of stores purchase was not in the best interests of India and that it should be replaced by a system of rupee tenders for delivery in India. And the Government of India, after full consideration of the question, have decided to accept the main principle underlying that resolution, viz., that it should be the general rule that articles required for the public service should be purchased in India, where tenders will be called for in rupees.

2. In order to give effect to the policy now adopted, the Government of India have framed the draft rules appended to this resolution, which embody their provisional conclusions on the subject and are intended to supersede all previous rules relating to the purchase of stores other than printing and stationery stores. The draft rules will be taken into consideration on or after the 1st December, 1928, and any criticism or suggestion received with respect to these rules before that date will be considered by the Government of India. The rules, as finally approved, will not be brought into force until a year has elapsed after publication in their final form. The object of this moratorium is to give time to the departments and firms who may be affected to make the necessary adjustments in their procedure in order to conform to the provisions of the new rules.

The New Stores Rules.—The following are the rules which were published for criticism on September 13th, but which are not necessarily in their final form :—

Rules for the supply of articles required to be purchased for the public service.
Preamble.

The policy of the Government of India is to make their purchases of stores for the public service in such a way as to encourage the development of the industries of the country to the utmost possible extent, consistent with economy and efficiency, and the following rules which are applicable to the

purchase of stores (other than printing and stationery stores) for the Government of India and for provinces other than Governors' provinces, are prescribed in accordance with this policy. These rules supersede all previous orders on the subject. In order to give effect to the above policy, Departments of the Government of India or officers expressly authorised by them in this behalf may, when they are satisfied that such measures are justified, allow a limited degree of preference in respect of price to articles produced or manufactured in India.

Subject to the above preference in making purchases will be given :—

(a) To articles which are produced in India in the form of raw materials or are manufactured in India from materials produced in India over articles wholly or partially manufactured in India from imported materials or articles not manufactured in India, provided that the quality is sufficiently good for the purpose.

(b) To articles wholly or partially manufactured in India from imported materials over articles not manufactured in India, provided that the quality is sufficiently good for the purpose.

(c) To articles held in stock in India over those which would need to be specially imported, provided that they are of suitable type and requisite quality.

Rule 1.—Except as provided in Rules 6 and 7, all articles required to be purchased for the public service shall be purchased in India.

Rule 2.—Unless, either because of the smallness of the order, or for some other sufficient reason to be recorded, it is not in the public interest to call for tenders, tenders shall be invited for the supply of all articles which are purchased in India under these rules. It shall be a condition on which tenders are invited that supply shall be made in India for payment in rupees in India; and no tender which fails to comply with this condition shall be accepted.

Rule 3.—All articles, whether manufactured in India or abroad, for which specifications and/or tests have been prescribed by competent authority, shall before acceptance be subjected to inspection and/or the test or tests during manufacture or before or after despatch from the suppliers' premises, which have been prescribed either in the specifications or otherwise.

Rule 4.—Important plant and machinery and iron and steel work shall be obtained only from firms approved by the Chief Controller of Stores, Indian Stores Department, and specified in the list issued by him from time to time.

Rule 5.—Nothing in the rules shall be deemed to prohibit the purchase of articles by one Department or Railway from another.

Rule 6.—(i) seeds; (ii) cinchona bark; (iii) articles for experimental or research purposes; (iv) china, glass, cutlery, plate, crockery and perishable fabrics, including linen for residences which are furnished by Government; (v) copper, zinc and other non-ferrous metals produced and purchased in Australia; (vi) timber produced and purchased in Australia or North America; (viii) such articles as the Superintendents of Vaccine Depots may require for the preparation of vaccine lymph; (viii) chemicals and scientific instruments; (ix) preserved and tinned foodstuffs; (x) articles required for Viceregal residences; (xi) any other articles of a special or unusual character; shall be purchased in India if suitable and economical purchases can be made there, and when purchased in India Rules 2 to 5 shall apply to their purchase. If, however, suitable and economical purchases cannot be made in India, they may be obtained abroad under the following rules :—

(a) Where the value of the purchase exceeds Rs. 5,000 the purchasing officer shall place on record his reasons for not purchasing in India.

(b) The purchasing officer may at his discretion either obtain the article that he requires by indent on the India Store Department, London, or pur-

chase it direct from manufacturers or dealers abroad. Where resort is had to direct purchase from manufacturers or dealers abroad, tenders should, whenever practicable, be first obtained.

(c) Payments for articles purchased abroad under this rule in countries other than the United Kingdom shall be made direct to the suppliers by the purchasing officer. Payments for articles purchased under this rule in the United Kingdom shall be made through the High Commissioner for India.

Rule 7.—Lethal weapons, munitions of war, technical apparatus and equipment, and any other stores required by the naval, military or Air Forces of the Crown in India for which drawings, patterns, specifications or designs have been issued, prescribed or announced by the Admiralty, War Office, Air Ministry, Government of India or Commander-in-Chief in India, shall be obtained by indent on India Store Department, London, unless they are available in India in accordance with prescribed drawing, pattern, specification, or design. Any departure from this rule requires sanction of the Government of India, and whenever an expenditure exceeding Rs.20,000 is incurred in any individual case to which such sanction has been accorded it shall be reported to the Secretary of State for India in Council.

Principal Modifications in the Rules.—A comparison with the rules promulgated in 1924 shows that the most drastic changes are in respect of stores which are not manufactured in India. The old rules provided that, except in the case of (a) stocks in India or on the way out to India, (b) material supplied by contractors for the construction of important works let out to them on contract, and (c) plant and machinery sold by branches or technical agents in India of approved manufacturers, all articles not manufactured in India should be obtained by indent upon the Store Department, London. Rule 1 of the new Regulations, however, lays down that, with the exception of certain military, naval and aircraft stores referred to in Rule 7 and a number of special items enumerated in Rule 6, *all articles required to be purchased for the public service shall be purchased in India.*

Rule 2 enjoins that tenders shall, normally, be invited for the supply of all articles which are purchased in India and that *it shall be a condition that supply shall be made in India for payment in rupees in India.*

In the old rules it was stipulated that preference would be given (1) to all articles produced in India in the form of raw material or manufactured in India from materials produced in India provided that the quality is sufficiently good for the purpose and the price reasonable, and (2) to articles wholly or partly manufactured in India from imported materials provided that the quality is sufficiently good and the price not unfavourable. The revised rules reaffirm these preferences omitting any reference to price, and add that preference will also be given to articles held in stock in India over those which would need to be specially imported provided that they are of suitable type and requisite quality. Moreover, it is now definitely stated that *where they are satisfied that such measures are justified, a limited degree of price preference may also be allowed by Departments of the Government of India or officers expressly authorised by them in this behalf.*

Some Results of the New Policy.—One of the first results of the enforcement of the new rules will be a very material increase in the purchases made by the Indian Stores Department and by the Stores Controllers of the State railways in India with a corresponding reduction in the activities of the India Store Department, London. As, however, some time must elapse before the purchasing authorities in India are able to expand their organisation to cope with all demands, it is probable that simultaneous tenders will continue to be called in India and in London for certain of the more important and highly technical items of machinery and railway plant. The Director-General of Stores, London, will continue to be responsible for the purchase of the stores enumerated in Rule 7 and for most of those referred to in Rule 6. He will still be the principal purchasing authority for the requirements of Governors' provinces, although it is expected that these provinces will utilise the services of the Indian Stores Department to an increasing extent. Moreover, the Director-General in London will continue to be in charge of the inspection, at all stages of manufacture, of stores purchased in the United Kingdom and on the Continent. The control of stores purchase has now, however, definitely been transferred from the Secretary of State to the Government of India and future policy will be decided upon in Delhi/Simla.

The Chief Controller of Stores and the State Railway Stores Controllers will now have, subject to the provisions of the new rules, a much freer hand in the purchase of imported stores. They will not be bound by the restrictions of the 1924 regulations, but will be able to purchase from any supplier in any part of the world provided that he conforms to the regulations as regards inspection, &c., delivers in India and accepts payment in India in rupees. On the other hand, it may safely be predicted that unless a contractor is actively represented in India by a branch office or experienced agency which maintains close touch with the Purchasing Department, is competent to submit complete tenders and is authorised to receive payment for stores supplied, he stands very little chance of obtaining Government of India stores contracts.

The Position of British Suppliers of Stores and Railway Plant.—During the past six years I have consistently recommended that British suppliers of stores which are purchased by the Indian Stores Department should so expand their organisation in India that they may be in a position to meet the Government of India requirements in India as completely and efficiently as they have hitherto met them in London. It is satisfactory to note that most British manufacturers of machinery and engineering stores have already taken action on these lines. The inclusion of railway plant and material for State railways within the scope of the rupee tender purchasing system will bring in an additional large class of manufacturers.

Most of the principal suppliers of rolling stock, bridge work, permanent way material, &c., have hitherto contented themselves with maintaining touch with the India Stores Department, London, and the London head offices and consulting engineers of the company-operated lines. They have, quite naturally, not considered it necessary to keep in touch with the Railway Board and railway indenting officers in India as the orders have been forthcoming in London, and they hesitated before incurring the additional expense of an organisation in India. Now that the rupee tender system is about to be enforced and Messrs. Rendel, Palmer & Tritton, the consulting engineers, are themselves opening an office in India, the time has come when an Indian organisation is essential if our position is to be safeguarded. Foreign competitors, both American and Continental, are already in the field, and unless British firms follow suit they will be seriously handicapped in the future. A few of the locomotive and wagon builders are already represented in India, and several makers of permanent way materials and machine tools have an active organisation on the spot. It is to be hoped that the remaining British firms of suppliers and railway contractors will lose no time in reaching a decision on this point. If they would, as a preliminary measure, send out a director or other senior officer to survey the position and consult with the members of the Railway Board and the leading railway officials throughout the country they would quickly realise the dangers of the present position.

The following considerations may prove to be of value to firms who are in doubt as to the type of organisation they require:—

(1) In many cases manufacturers may find it advantageous to register a limited liability company in India with rupee capital and in some instances it would be desirable to have a proportion of Indian directors on the board. The principal advantages may be summarised as follows:—

(a) It has been laid down as the settled policy of the Government of India "that no concession or bounty will be given to any firms in regard to industries in India unless such firms have a rupee capital, unless such firms have a proportion, at any rate, of Indian directors, and unless such firms allow facilities for Indian apprentices to be trained in their works."

(b) The preamble of the revised stores rules already quoted lays down that preference in making purchases will be given to articles wholly or partially manufactured in India from imported materials over articles not manufactured in India, provided that the quality is sufficiently good for the purpose. According to this rule it would be possible for a British manufacturer to carry out a certain portion of the manufacture of his products in India and—if he were registered as an Indian Company—he would, I think, be justified in claiming preferential treatment. I am convinced that British manufacturers who have registered in India and have Indian directors will be in a much stronger position in dealing with Government Purchasing Departments than mere branches or agencies of overseas firms.

(c) So far as general business is concerned, the fact that a Company was registered in India or in Great Britain has hitherto had little influence on its sales, but with the increase of political and racial feeling during the past few years, one feels that in the future there may be advantages in having

well-known Indian names on the Board. The rapid Indianisation of all the services lends point to this.

(2) The preamble to the revised stores rules further states that preference will be given to articles held in stock in India over those which would need to be specially imported, provided that they are of suitable type and requisite quality. This rule will, in practice, compel British manufacturers and suppliers of stores in regular demand by the Government of India to maintain stocks in India in the hands of their branches or agents, otherwise they will run the risk of losing trade to their competitors, both British and Foreign, who do hold stocks in the country. It is also important that the local branches and agencies of British firms who hold stocks in India should apply to the Chief Controller of Stores, Indian Stores Department, Delhi/Simla, and to the Stores Controllers of Indian State Railways to be noted on their standard lists of approved contractors. They should at the same time furnish a complete list of the articles usually stocked and the amount of stock which they normally carry.

It is extremely likely that one result of this extended purchasing by Government from stocks in India will be to introduce increased foreign competition. Our foreign rivals are, in some cases, strongly entrenched in this market, and several cases have come to my notice where local firms are stocking American goods, solely because they are granted more liberal financial terms by American makers, who are prepared to grant two or three months or even longer credit on the stocks supplied. A considerable number of the larger merchant houses in India are prepared to pay cash in London for their stocks, but it should be remembered that some of the newer and lesser firms, who are equally reliable and frequently more energetic agents, cannot afford to lock up their capital in this way. In these instances a three to six months bill would meet the case. I appeal to many British manufacturers, who expect their agents not only to purchase stocks outright by cash in London but also to meet the heavy costs of travelling and advertising, to take a reasonable view of local conditions. The number of first class agents in India with ability, energy and intimate knowledge of the requirements of Government is limited. Foreign manufacturers have realised this fact and have, in many cases, appointed them as agents. Unless many British makers are prepared to be more generous in their agency terms and to take a greater interest in the development of their sales in India, they may find that the most efficient local representatives are already fully engaged and that they are obliged to appoint second-rate firms with the result that their interests are bound to suffer.

(3) When the rupee tender system comes into force, the branch, representative or agent of the British manufacturer will be dealing with Government departments in the relationship of Principal to Principal. Payment for stores and material supplied will be made in India by Government to the branch, representative or agent, as the case may be, with whom the contract was concluded. It will, therefore, be most important that British manufacturers should be represented by an organisation in India over which they have control or in which they can implicitly rely. Otherwise, cases might arise, as I believe they have already arisen in other markets in the Empire, where agents received considerable sums from Government Departments in payment of plant and stores supplied which they failed to remit to their Principals in the United Kingdom and, in the meantime, became insolvent. This is an aspect of the effects of the rupee tender system which has not, I think, so far, been appreciated but which would seem to be important.

(4) It will have been noted from the preamble of the revised rules that " the policy of the Government of India is to make their purchases of stores for the public service in such a way as to encourage the development of the industries of the country to the utmost possible extent consistent with economy and efficiency." This policy is being carried out most zealously by the officers of the Indian Stores Department and by the Railway Board, who appear to be

determined to purchase their requirements from Indian industries if possible and, failing that, from the most economical source of supply irrespective of country of origin. British manufacturers must realise that, apart from the results of their own efforts, they will have no advantages in competition with foreign interests and, in the case of competition with Indian Industries, the scales will be heavily weighted against them. Their success will therefore entirely depend upon their own efforts and the suitability of the Indian organisation which they may set up. The ideal form of representation for the large firms of manufacturers of rolling stock, steelwork, permanent way material and other important items of railway stores would appear to be a locally registered Limited Liability Company, holding stocks of those stores or parts which are in constant demand, assembling its products in India where such a course conduces to efficiency or economy, and manufacturing locally those portions of its products which can be manufactured more advantageously in this country.

The Indian Stores Department in 1927-28.

Note.—I am indebted to Mr. J. S. Pitkeathly, C.I.E., C.V.O., C.B.E., Chief Controller of Stores, and to Mr. K. M. Kirkhope, C.I.E., Officiating Chief Controller, for the information which follows and for valuable co-operation and help which have always been most willingly given. The annual reports on the administration of the Indian Stores Department may be seen at the Department of Overseas Trade, 35, Old Queen Street, London, S.W.1, and should be read by all firms interested in the supply of stores to Government.

The Chief Controller in his administration report for the year 1927-28 reviews the progress made during the year in the following terms :—

“ The progress made in the previous five years of the Department's existence was fully maintained. Indeed, in some directions, notably the purchase of engineering and miscellaneous stores and the inspection of stores, a further advance has been noted.

Activities of the Purchase Branch.—The value of the purchases made during the year diminished by about Rs.25 lakhs but, as has been explained in the report, this result is in no way attributable to any real contraction of the business of the Department. As a matter of fact, the various purchase organisations were more fully occupied during the year under review than in any year previously. In effecting purchases every effort continued to be made to utilise the resources of India to the fullest extent compatible with efficiency and economy, and the results achieved, more especially in respect of textile goods, as is to be expected, were as satisfactory as those in the past years.

Activities of the Inspection Branch (General).—The largest measure of the progress made during the year occurred in the Inspection Branch. The Calcutta Inspection Circle, notwithstanding the curtailment of the wagon construction programme, one of the more important classes of work hitherto undertaken by it, was actually entrusted with a larger volume of business than in any previous year, while the outturn of the Bombay Inspection Circle exceeded that of 1926-27 by over 66 per cent.

Activities of the Metallurgical Inspectorate, Jamshedpur, and the Government Test House, Calcutta.—The services of the Metallurgical Inspectorate and the Government Test House were more fully utilised during the year than in past years. The number of tests and analyses carried out by each of these organisations exceeded the previous records, though there was a slight decline in the tonnage of the products of the Tata Iron & Steel Co. inspected by the Metallurgical Inspectorate. This was, however, more than counter-balanced by accretions of other work to that organisation, with the result that its earnings exceeded those of the past year.

Specifications and Advisory Work.—These functions of the Department continued to receive the attention which their importance merits. A number of existing specifications were revised and brought up-to-date, and an equal number of new specifications for stores of various descriptions were framed during the year. The Department was again entrusted with the scrutiny of several schemes of great financial importance, and it availed itself of every opportunity of affording technical advice and assistance to manufacturers.

Indents on the India Store Department, London.—The results of the year 1927-28 in this sphere of the Department's activities seem to indicate that the work done by the Department in the past in the matter of the scrutiny of indents on the India Store Department, London, is beginning to bear fruit. The Department found it necessary during the year to question the inclusion in these indents of a far less number of items than formerly, and this development suggests that the resources of India are being utilised by consuming Departments to a greater extent than hitherto.

Financial Position.—The data at present available in respect of the receipts of the Department and of the expenditure directly debitabale to its budget grant is incomplete, but it indicates that the financial position at the end of 1927-28 is likely to be much the same as it was at the close of 1926-27."

Work of the Purchase Branch.—The total value of the purchases effected fell from Rs.3,98,82,245 to Rs.3,73,03,846. There was an increase of 31 and 25 per cent. respectively in the total number of indents and items dealt with in 1927-28, as will be observed from the subjoined table :—

Organisation.	No. of indents.		No. of items.	
	1926-27	1927-28	1926-27	1927-28
Headquarters	3,925	4,886	23,193	27,028
Calcutta	2,344	2,805	16,916	19,505
Bombay	1,079	1,745	6,989	8,911
Karachi	1,213	1,751	8,960	14,669
Total	8,561	11,187	56,058	70,113

Purchase of Textile Stores.—The textile purchases amounted to Rs.1,18,81,913 in value, against Rs.1,62,86,293 during 1926-27. In other words, there was a decrease of 27 per cent. The figure of 1926-27, as will be seen from the previous year's report, was swollen by the inclusion in the transactions of that year of certain purchases of substantial value which, but for the late receipt of indents, would have been effected during the year 1925-26 but, even if allowance be made for this increment, the figure for the year under report remains lower than that of the previous year. This decrease does not, however, indicate that less resort was made to the Department for the transaction of this class of business. It is due partly to more extended competition, resulting in the submission of more favourable quotations to the Department, and partly to an alteration during the year of the procedure in force in the Army Department for placing their demands for such stores on the Indian Stores Department, the effect of which is to transfer to a larger extent than hitherto the operation of purchase to the year in which the stores are delivered and paid for. As an indication of the fact that this class of business is not decreasing in volume, it may be mentioned that the Department purchased for other authorities textile goods to the value of Rs.6½ lakhs more than in 1926-27.

Preference, without the sacrifice of economy and efficiency, continued to be given to goods of Indian origin and manufacture. The value of such goods amounted to 96·8 per cent. of the total expenditure on this account.

Purchase of Engineering and Miscellaneous Stores.—The value of the engineering and allied stores which were purchased during 1927-28 amounted to Rs.2,54,21,933 as against Rs.2,35,95,952 in 1926-27. Approximately one-half of the former amount was expended on stores classified as "Engineering," such as electrical power generating plant, excavating machinery, workshop machinery, steel structures, cranes, sluice and regulator gates, steel barges, pipes, steel tanks, road rollers, electric motors, fans, cables, lamps, meters and other accessories. The remaining one-half represents the value of hardware and miscellaneous stores, such as rubber tyres and tubes, cement, oil fuel, oils (lubricating, axle, cylinder, linseed, castor, kerosene), paints, varnishes and painters' materials, creosote, steel section sheets, barbed and plain wire, railway sleepers (sal and deodar), petrol, asphalt, asbestos sheets, tipping wagons, rails, and permanent way materials and general ironmongery.

Wherever possible, notably in respect of cement, oils, paints and steel work, stores of Indian manufacture and origin (wholly or partly) were obtained, but in the case of other engineering plant and machinery the bulk of the expenditure was necessarily incurred on the products of foreign countries.

The Central Departments, in particular the Army Department, contributed most largely to the increase in the volume of these transactions, the purchases on their behalf having risen by 47 per cent. A smaller volume of work was transacted for the Provincial Governments, Railway Administrations, Indian States and public bodies.

Details of Important Purchases.—The more important purchases which were made are specified below :—

	<i>TEXTILES.</i>	Amount, Rs.
1.	Tents and components	14,86,000
2.	Blankets, woollen	12,09,000
3.	Drill khaki and jean kahki	11,27,000
4.	Cotton waste	7,47,000
5.	Drill, white and coloured	6,03,000
6.	Socks and stockings, woollen... ..	5,41,000
7.	Paulins and waterproof canvas	4,57,000
8.	Waistcoats, cardigan jackets and jerseys	3,66,000
9.	Jhools and rugs	3,40,000
10.	Yarn, woollen and cotton	3,38,000
11.	Pugree cloth, khaki and other colours	3,22,000
12.	Cordages, ropes and twine	2,99,000
13.	Calico, muslin and cambric	2,57,000
14.	Bags, postal, flax and jute canvas, proofed and unproofed	2,40,000
15.	Serge	2,11,000
16.	Sheets, barrack	2,01,000
17.	Flannelette	1,83,000
18.	Sheets, hospital	1,52,000
19.	Dosuti	1,51,000
20.	Durries, cotton and woollen	1,42,000
21.	Wool cotton, absorbent, surgical	1,28,000
22.	Canvas	1,19,000
23.	Hessians and gunnies	1,09,000
24.	Blanketting cloth	1,07,000
25.	Coir fibre	1,04,000
26.	Chutt	1,02,000
27.	Putties, woollen and cotton	96,000
28.	Twill cotton, khaki and white	86,000

Textiles— <i>continued.</i>	Amount. Rs.
29. Comforters and caps, woollen	81,000
30. Rope, manilla, coir	81,000
31. Towels and towelling cloth	78,000
32. Greatcoat cloth	72,000
33. Alpaca	70,000

ENGINEERING AND MISCELLANEOUS.

34. Tyres and tubes, rubber	21,60,000
35. Cement	20,37,000
36. Creosote	12,80,000
37. Sluice gates and regulators	11,29,000
38. Steel sections	11,04,000
39. Excavating machinery	9,08,000
40. Electric fans, lamps and fittings	8,87,000
41. Steel structures	8,43,000
42. Electrical power generating plant	8,27,000
43. Oil fuel	7,75,000
44. Oil, lubricating, miscellaneous	7,19,000
45. Paints	5,78,000
46. Pipes and fittings	5,50,000
47. Zinc ingots	2,90,000
48. Sheets, galvanised, plain and corrugated	2,87,000
49. Electrical driven haulage gear	2,72,000
50. Engineering plant and equipment	2,50,000
51. Road rollers	2,23,000
52. Steel barges	1,97,000
53. Electrical distribution material	1,84,000
54. Kerosene oil	1,54,000
55. Workshop machinery	1,42,000
56. Linseed oil, raw and double boiled	1,10,000
57. Maconite cables and fittings	1,08,000
58. Barbed wire	1,05,000
59. Railway sleepers, sal, deodar, etc.	1,05,000
60. Asphalt	87,000
61. Rock crushing and granulating plant	65,000
62. Petrol	65,000
63. Stoneware pipes	63,000
64. Culverts, Acme and Armco	60,000
65. Baling wire	59,000
66. Cranes	55,000
67. Timber packing cases	51,000

Specifications.—59 specifications were revised during the year and 60 new specifications were framed, of which 22 were for special classes of stores, the more important of these being :—

1. Road roller, steam operated, coal or wood fired. 2. Summer and winter uniforms for the staff of the East Indian Railway. 3. Sluice gates for the Panjnad Barrage on the river Sutlej, thirty-three gates clear width of opening 60 ft., 18 ft.-6 in. deep, for the Punjab Public Works Department. 4. Gates for the under-sluices of the weir across the river Damodar. 5. Steel barges of capacity up to 100 tons of stone for the Lloyd Barrage Works, Sukkur. 6. Hand chemical fire extinguishers.

Another specification which is worthy of special notice is that relating to safes for use in the Indian Posts and Telegraphs Department. Formerly the safes used by that Department were of European manufacture. The specification drawn up by this Department, however, enabled safes of Indian manufacture to compete with those manufactured abroad, and resulted in a

rate contract being placed with a manufacturer in India for the supply of the requirements in this respect of the Posts and Telegraphs Department for a period of two years."

ENCOURAGEMENT OF INDIAN INDUSTRIES AND LOCAL PURCHASES.

"Registration of Firms at Headquarters.—The potentialities of Indian sources of supply continued to be explored, and this investigation resulted in the addition of 326 firms to the Department's list of approved contractors and to the lists of firms maintained under the Rules for the supply of articles for the public service. The applications from 76 firms for registration were rejected on the ground of their unsuitability for enrolment; and on a review of the lists in the light of the experience of the past years it was decided to remove therefrom the names of 106 firms, as those were no longer considered to be of any practical use to the Department.

The following table indicates the total number of firms registered up to the end of the year distributed amongst the various provinces and classified according to the different descriptions of stores dealt with by them :—

	Bengal.	Bombay Presy.		Madras.	Punjab.	U. P.	Delhi.	Burma.	B. & O.	C. P.	Indian States.	N. W. F. P.	Total.
		Bombay.	Karachi.										
Railway materials	59	41	4	8	9	3	7	6	5	—	—	—	142
Hardware	86	55	15	12	15	23	15	9	3	—	7	—	240
Implements and tools	51	42	11	14	13	4	11	10	3	1	3	—	163
Metals	90	56	16	14	15	9	12	12	4	1	3	—	232
Mechanical equipment	147	129	12	32	23	12	18	29	4	—	6	—	412
Electrical	92	63	12	21	14	13	15	11	3	—	3	—	247
Oils	42	35	7	12	8	5	5	9	—	—	4	—	127
Paints, colours, enamels and varnishes	51	44	11	13	8	1	4	7	1	—	4	—	144
Chemicals (excluding medicines and drugs)	38	16	5	3	3	3	3	3	—	—	1	—	75
Textiles—													
(a) Cotton materials	75	70	3	6	30	20	12	5	—	1	6	—	228
(b) Woollen „	26	21	2	5	10	13	2	2	1	—	5	1	88
(c) Jute, flax and hemp materials	58	25	4	1	11	5	—	3	1	1	—	—	109
Silk goods	—	—	—	—	—	1	—	—	—	—	—	—	1
Leather goods	17	9	—	2	6	15	1	3	—	—	1	—	54
Structural engineering	39	14	3	4	2	2	2	6	2	—	—	—	74
Miscellaneous stores	177	110	24	26	51	40	30	21	3	8	9	1	500
Medical, surgical and scientific stores and equipment (excluding medicines, chemicals and drugs)	11	3	—	1	1	2	—	—	—	—	—	—	18
Wireless stores	1	1	—	—	—	—	—	1	—	—	—	—	3
Mathematical drawing and surveying instruments and equipment	9	9	—	—	—	—	1	1	—	—	—	—	20
Total	1,069	743	129	174	219	171	138	138	30	12	52	2	2,877
Deduct overlapping figures for firms appearing for more than one item	613	402	81	116	87	51	75	69	21	3	21	—	1,539
Net total	456	341	48	58	132	120	63	69	9	9	31	2	1,338

Advice to Manufacturers.—The Department has continued its efforts to assist manufacturers in improving the quality of their products and bringing them up to the standards required by Government Departments.

The progress made in this direction since the formation of the Indian Stores Department as a result of its activities has been most gratifying, particularly in respect of textiles.

A few of the more important items which were imported from abroad in the past because they were not obtainable in India of the standards required and which are now purchased of Indian manufacture by the Indian Stores Department, are :—

Articles.	Approximate value of annual purchases. Rs.
1. Drill, kahki	10,60,000
2. Putties, khaki, woollen	4,31,000
3. Socks, woollen	5,30,000
4. Felt for saddle panels	2,61,000
5. Serge, miscellaneous, white lining	96,000
6. Khaki jean for bandoliers	65,000

In addition the manufacture of the following items in India is being carefully nursed with a view to their total elimination from home indents at the earliest possible date :—

Engineering and Miscellaneous.

- | | |
|------------------------------|-----------------------|
| 1. Battery jars. | 4. Paint, white lead. |
| 2. Glassware, miscellaneous. | 5. Stoneware. |
| 3. Locomotive cylinders. | |

Textiles.

- | | |
|-------------------------|------------------------|
| 6. Bunting cloth | 10. Pagri cloth. |
| 7. Duck, cotton | 11. Greatcoat cloth |
| 8. Leather and oilcloth | 12. Serge drab mixture |
| 9. Leather belting | |

In order to assist Indian manufacturers, trial orders for the last two items have already been placed with Indian mills at prices somewhat higher than those at which these materials can be obtained from abroad. It is anticipated that Indian manufacturers will be able, in due course of time, to produce these materials at rates which will compare favourably with those quoted by their foreign competitors and that it will be possible to obtain from Indian sources the full quantity of these materials required for the Army in India.

Scrutiny of Home Indents.—The number of indents on the India Store Department, London, which were examined during the year, amounted to 1,630 of an estimated value of Rs.7,65,40,013. Items to the aggregate value of Rs.15,66,392 were challenged, and as a result purchases to the value of Rs.1,86,955 were diverted to the Indian market, and assurances were received from indentors that items, the present requirements in respect of which aggregate Rs.5,32,325 in value at current rates, would, if required in future, be purchased in India. During 1926-27 the value of the items challenged amounted to Rs.76,57,000, and that of the purchases diverted to India to Rs.6,44,000. The reduction in the corresponding figures of 1927-28 is, it is believed, attributable to greater attention being paid to the resources of India by indenting departments."

Purchases of Railway Materials.—Value of Railway Materials purchased in 1926-27.—The last published report on Indian railways for 1926-27 deals exhaustively with the subject of stores purchases, and the following information has been extracted from it :—

The value of stores purchased by Indian Railways in 1926-27 fell from Rs.23.30 crores to Rs.23.14 crores, excluding coal, stone, bricks, lime, etc. There were increases in the total value under tools and stores (90 lakhs), permanent way (74 lakhs), electric plant (21 lakhs), engineers plant (26 lakhs), and workshop machinery (10 lakhs), but these increases were more than set off by a large decrease under rolling-stock (237 lakhs).

The value of indigenous materials rose from Rs.8.72 crores or 37.4 per cent. of the total to Rs.10.60 or 45.3 per cent. If coal, stone, bricks, lime, etc., are included the percentage comes to 55 per cent. The principal increases in indigenous materials were under "permanent way," the value of which advanced by over a crore of rupees and "tools and stores" which increased by 64 lakhs.

STATEMENT SHOWING VALUE OF STORES PURCHASED UNDER PRINCIPAL HEADINGS.

Headings.	Value of Imported Materials.			Value of indigenous materials.	Total purchases, 1926-27.	Total purchases, 1925-26.
	Purchased direct.	Purchased through Agents in India.	Total imported materials.			
	Rs. crores.	Rs. crores.	Rs. crores.	Rs. crores.	Rs. crores.	Rs. crores.
Rolling stock ...	3.27	0.69	3.96	0.83	4.79	7.16
Tools and stores ...	0.84	2.96	3.80	3.86	7.66	6.76
Permanent way ...	0.85	0.38	1.23	5.40	6.63	5.89
Electric plant ...	0.86	0.68	1.54	0.04	1.58	1.27
Building and station materials and fencing ...	0.24	0.37	0.61	0.25	0.86	0.92
Bridge work ...	0.28	0.05	0.33	0.17	0.50	0.54
Workshop machinery ...	0.42	0.27	0.69	0.01	0.70	0.60
Engineer's plant ...	0.21	0.17	0.38	0.04	0.42	0.16
Other materials* ...	—	—	—	4.89	4.89	—
Total ...	6.97	5.57	12.54	15.49	28.03	23.30

(*Other materials consist of coal, stone, lime and ballast, etc., and figures for 1925-26 are not available).

The purchases by Railways through the Indian Stores Department under principal heads were as follows :—

	(In thousands of rupees).
Textiles ...	26,02
Oils ...	11,96
Steel ...	8,24
Cement ...	7,31
Plant and machinery ...	6,64
Paints ...	2,60
Parts of rolling-stock ...	75
Roof material ...	67
Miscellaneous... ..	3,16
Total ...	67,35

It must be remembered, however, that the above figures of value of stores purchased do not take into account the very large expenditure in India on work done and materials manufactured in railway workshops. An attempt has been made this year to arrive at figures of this expenditure as well as the

cost of structural and other engineering works carried out "in situ." The figures include a certain amount of expenditure on the purchase of stores which is already included in the statement of value of railway materials purchased,

Cost of work done and materials manufactured in railway workshops.

	(In thousands of rupees).
1. Construction of locomotives	61,88
2. Construction of boilers	5,07
3. Construction of coaching stock including under-frames... ..	1,59,76
4. Construction of goods stock including underframes	40,55
5. Construction of spare parts of locomotives ...	1,34,68
6. Construction of spare parts of coaching and goods stock	1,20,65
7. Construction of other stores	1,15,78
8. Work done for other departments, (i.e.) departments other than that supervising the Workshops ...	2,45,50
9. Engineer's plant	45,38
10. Permanent way	12,65
11. Bridge work	31,32
12. Other engineering works	4,04,93
	<hr/>
	13,78,15

Cost of structural and other engineering works carried out "in situ."

	(In thousands of rupees).
Bridge work	94,53
Structural and other engineering works	3,49,74
	<hr/>
	4,44,27

Purchase of Army Requirements.—As I stated in my last report, the Master-General of Supply is in general charge of purchases of military stores. The bulk of the imported stores contracted for in India are purchased by the Director of Contracts at Army Headquarters, Delhi/Simla. Textile stores are purchased by the Indian Stores Department, which now deals very largely with the engineering requirements of the Engineer-in-Chief's branch of Army Headquarters. The Deputy Director-General (Stores) of the Indian Medical Service purchases in India considerable quantities of drugs, medicines, dressings and surgical instruments and apparatus. Medical stores depots are maintained at Calcutta, Bombay, Madras, Lahore and Rangoon. Practically all other imported stores on Army account are obtained from the Director-General of the India Store Department, London,

Stores Purchased by the Department of Posts and Telegraphs.—Telegraph stores are the most important item. In his report for the year 1926-27, the Director-General of Posts and Telegraphs states that Rs.66,94,399 worth of stores were received into stock, Rs.95,08,177 were issued, leaving a closing balance of

Rs.97,21,041 on hand. Every endeavour was made to reduce the value of the stock balance with the result that it showed a decline of Rs.28,13,778 as a result of the year's working. The value of the stores purchased in India showed little change, but the value of stores obtained direct from England fell from Rs.13,69,000 to Rs.8,36,500.

The Indian Canteen Contractors Syndicate, Ltd.—In previous reports I have traced the formation, the brief and chequered career and the eventual liquidation of the Army Canteen Board (India). British purveyors of provisions and canteen stores will be interested to read the following note on the Indian Contractors Syndicate, Ltd., which has been specially written for the report by Mr. A. C. Murray, the Managing Director nominated by the Quartermaster-General, who has successfully carried through the formation of the Syndicate during the year, and who will remain in charge of its active management.

“ The year 1928 will have been notable for very important developments in the system of canteen supplies to British troops in India. The failure of the Army Canteen Board (India), now dissolved, had in no way altered the conviction of the military authorities that the principle for which it stood was sound; in that it provided through peace an organisation immediately adaptable to conditions of war.

There, when it was decided to hand back once again the military canteens throughout India to the Regimental Contractors, who had been only partially displaced at the formation of the Army Canteen Board (India), it was with the very definite proviso that they must immediately form themselves into a co-operative society for the collective purchase and distribution of their principal canteen supplies. The machinery thus set up would be at the disposal then of Government, to take over and administer in time of war.

The Contractors on their part made immediate and loyal response, and if the preliminary work of organisation has seemed slow, the problems encountered have been sufficiently complex.

The Canteen Contractors Syndicate, Limited, which is the outcome, is in many ways unique among commercial companies. Its capital is assured since every contractor holding an Institute contract in India is bound to take up shares in the Syndicate to the assessed value of that particular canteen. Assessments are graded according to the types of troops and relative rates of pay, of the rank and file.

Shares form virtually part of the stock-in-trade of the Institute. They may not be disposed of, except by transfer to an incoming Contractor taking over the Institute. At the expiry of a contract they may not be retained.

The Syndicate's turnover is assured to it by the undertaking every Contractor must enter into with the Army Authorities, that he will obtain through it, and only through it, all his requirements of those goods which are marked in the Syndicate's price lists as “ compulsory ” supplies. These comprise principally foodstuffs, cleaning materials and other articles, in the quality and freshness of which the troops are directly concerned.

Any Contractor not conforming to such undertaking, or in other ways jeopardising the interests of his fellow-shareholders, may be reported to the Quartermaster General in India, for his name to be struck off the official list of approved Contractors, from which Officers Commanding may only make selection. The contracts held by the defaulting Contractor would then be terminated and he would be disqualified for the future from treating for others.

The moral and actual support thus given by Government to the Syndicate is extremely valuable and makes the proposition exceptionally sound.

The Syndicate is actually a buying agency, placing orders on suppliers in fulfilment of definite indents from its customer-shareholders, who must buy through it and from no other source. There is small wonder therefore that manufacturers throughout the world have been keen to obtain a share of its trade. The field now opened for development by direct supply is an important one. There are in all some 160 military institutes in India, comprising barrack grocery-shops, as well as refreshment bars and operated by about 85 contracting firms. The greater percentage of the latter, it will be seen, possess only single units. A few multiple-contractors control a dozen or more institutes. Only a very small proportion of these are already importers of their requirements. It will thus be realised to what degree the greater number of members must benefit immediately under the new system of co-operative purchase.

Briefly the aim of the Syndicate is to provide its members with goods at cheapest possible cost, warehouse expenses merely being charged, plus a margin to provide a dividend limited to 6 per cent. on paid-up capital. The price for each article will be common throughout, regardless of the quantity ordered, and any quantity will be supplied.

The advantage to the small Contractor under this arrangement is obvious. And here it may be said that the average Commanding Officer prefers to have his own Contractor always at his beck and call. Where he has employed one of the larger multiple firms, it has been because of their superior organisation and the better service they have been able to ensure in consequence.

The small Contractor in the matter of service has suffered severe handicap. His requirements being limited he has had to pay top-price for his goods. Generally to secure discount and justify freight, packing and octroi charges, he has been led to order quantities larger than demand justified. His limited capital, in consequence, has been locked up in stock deteriorating on his shelves.

The Syndicate by supplying at bedrock price, only his precise requirements, punctually each month, will help to release that needed capital, enabling him to increase the range of articles wherewith to tempt additional custom.

To encourage and assist him in such development, he will have before him each month the price lists of the Syndicate, giving him what he may be assured are the best prices obtainable, and such as he individually could never approach. Mental effort is spared to him. A customer's enquiry for some new line not stocked, can be satisfied at a glance. For though the Syndicate's price lists will enumerate those lines which it is compulsory to buy only from it, they will include also a great number of articles in common demand, which it is prepared to supply at most favourable terms by arrangement with wholesale firms in India.

The system generally on which the Syndicate will trade is c.i.f. against documents at Karachi or Bombay. The Main Depot and Head Offices will be at the former port. Orders will be placed on suppliers in due time to enable first issues to be made to members in January, 1929.

The Chairman of the Company is the Hon. Sir Phiroze C. Sethna, O.B.E., Bombay, Member of the Legislative Council, who was also a member of the Commission of enquiry set up to investigate the affairs of the Army Canteen Board (India), and of the Skeen Committee. Sir Phiroze has no interest otherwise, nor connection with the Canteen Contracting business. He brings to bear the fresh view of an independent business expert on the Syndicate's problems.

The Managing Director, nominated by the Quartermaster-General for the Government of India, is Mr. A. C. Murray, formerly of the Navy, Army and Air Force Institutes, England, who was loaned by that Corporation to carry out the liquidation of the Army Canteen Board.

The Syndicate's Bankers are the Imperial Bank of India; its Auditors, Messrs. Fergusson & Co., Bombay; and its Solicitors, Messrs. Crawford, Bayley & Co., Bombay.

Its nominal capital is Rs.25 lakhs. Its working capital Rs.20 lakhs, of which Rs.15 lakhs will be immediately called up.

Head Office: Postal Address—Post Box 113, Karachi. Telegrams—

"Cansind" Karachi Code: Bantley's"

CHAPTER III.

REVIEW OF THE ACTIVITIES OF THE INDIAN TARIFF BOARD DURING THE YEAR,

In previous reports will be found an account of the steps which led to the adoption by the Government of India of the policy of discriminating protection. I have also described the previous inquiries by the Tariff Board into the steel, cotton and other industries. In the present chapter I propose to give an account of the inquiries made during the past year into the wagon-building and other subsidiary branches of the steel industry and into the belting, plywood and printing paper industries.

STATUTORY INQUIRY INTO THE STEEL INDUSTRY.

1. Report of the Indian Tariff Board regarding the grant of protection to the manufacture of wagons and underframes.—In the Government of India resolution of April 3rd, 1926, it was laid down that the Board would be at liberty to examine the claims for protection of industries making steel products which did not come within the scope of the Steel Industry (Protection) Act, 1924, and to report whether, having regard to the principles laid down in paragraph 97 of the report of the Indian Fiscal Commission, such claims should be admitted. The inquiry into the wagon industry was completed in 1926, but the report was not signed until June, 1927, owing to the difficulty of assessing costs of production at a time when the railways were not placing any orders for broad-gauge wagons and owing to the negotiations which were proceeding for the purchase by Government of one or more of the works.

Summary of the Board's recommendations.—

" (1) We find that under the stimulus of the bounty scheme which has been in force during the last three years, the wagon industry (in which term we include also the construction of underframes) has made great progress, and is now able to meet a large proportion of the normal demand for wagons and underframes in India.

(2) As a consequence partly of the reduction in the cost of material but largely of the decrease in costs resulting from large orders for a few standard types of wagons, the wagon manufacturers have now reached a stage when they could normally withstand foreign competition with no assistance other than the existing revenue duty.

(3) We, therefore, recommend that the system of bounties should be abandoned and that no increase be made in the existing duty on wagons and underframes.

(4) Owing to improvements in railway administration, it has proved possible to reduce the requirements of the railways in respect of new broad gauge wagons, and it will probably be unnecessary to place orders for this class of wagon for three years and possibly longer.

(5) Orders for considerable numbers of wagons have been placed abroad in recent years. In regard to such orders placed before 1925-26, the Indian Wagon Industry has apparently no ground for complaint. But in view of the rapid growth of the industry in 1925 and the possibility of a large reduction in the demand for broad gauge wagons as indicated by the figures of surplus

wagons in July, 1925, we consider that, in the interests of the wagon industry in India, the orders for about 1,450 broad gauge wagons which were placed abroad in December, 1925, might well have been withheld and placed later with Indian firms.

(6) It does not seem, however, that the present situation could have been entirely averted even if no orders had been placed abroad in 1925, though the position would have been considerably improved.

(7) Special measures have been taken temporarily to meet the present situation. The Peninsular Locomotive Company's works have been acquired and sufficient orders for miscellaneous wagons and underframes have been placed for 1927-28, with the remaining firms to keep their works in operation.

(8) The restriction in the demand for broad gauge wagons will continue for some years, and until normal conditions return, the wagon companies will be in a difficult position. We consider that during this period, steps should be taken to assist the industry.

(9) We recommend that until the demand for wagons and underframes in India reaches a total of 5,000 annually in terms of C-2 wagons, all orders should be placed in India by competitive tender from Indian manufacturers.

(10) The absence of foreign competition and the fact that there are now only three firms manufacturing wagons in India of which two are under the same management make it desirable to fix maximum prices within which tenders will be accepted.

(11) We recommend that subject to minor adjustments, such maximum prices be fixed at the level of the lowest approved c.i.f. price as shown in the tenders for wagons in November, 1925, and for underframes in April, 1926. To these prices an addition of 12½ per cent. must be made, and the appropriate charges for landing, wharfage, etc., and erection, must also be added.

(12) In view of the costs of wagon manufacture as shown in this report, it is desirable that the question of the extent to which it is advisable to anticipate future requirements for wagons and underframes or to replace old rolling stock should be reconsidered.

(13) We are unable to support the claim of the Bombay, Baroda and Central India Railway that they should be permitted to import material for building wagons at 10 per cent. *ad valorem* duty. As regards the application of the same railway that material for the construction of locomotives should be imported at a 2½ per cent. *ad valorem* duty, we are not in a position to make any recommendation.

(14) We consider that when the normal demand for rolling stock revives, the system of restricting orders to the capacity of the firm tendering, as certified by the Indian Stores Department, should cease, but that adequate penalties should be provided and enforced for late delivery."

Decision of the Government of India.—The decision of the Government of India was announced in Resolution No. 260-T (92) of the 25th February, 1928, and reads as follows :—

"The Government of India accept the findings of the Board that, given a sufficiency of orders, the railway wagon and underframe industry no longer requires any assistance beyond the existing revenue duty, and that the continuance of the bounty scheme, which has been in force during the last three years is unnecessary. They also agree with the Board that, owing to the probable restriction in the normal demand for wagons during the next two or three years consequent on improvements in railway administration, assistance should be given to the industry during this period by taking special steps to secure that, if possible, all the available orders are placed in India.

The Board recommend that until the demand for wagons again becomes normal, tenders should be called for only in India and accepted if within a certain maximum price. The maximum price proposed for each type of wagon is the lowest approved price as shown in the tenders for wagons in

November, 1925, and for underframes in April, 1926, plus an addition of 12½ per cent. and the appropriate charges for landing, wharfage, etc., and erection. The Government of India are unable to accept this recommendation as it stands. The 12½ per cent. addition is appropriate only if the total orders to be placed during the year are sufficient to keep the wagon building firms working to 60 per cent. of capacity, and would be too low if the orders fell short of this figure. For this reason and also on account of certain practical difficulties the Government of India have decided to adopt the following modified arrangement. Tenders in the first instance will be called for only in India, and the lowest tender accepted provided it is regarded as reasonable. In determining whether the price tendered is reasonable, comparison will be made with the basic price of 1925 in respect of wagons and of 1926 in respect of underframes and allowances will be made either upwards or downwards for variations in steel prices and for the size of the orders to be placed. If the prices tendered are found to be unreasonably high for any type of wagon, the wagon building firms will be informed of the maximum price which the Government of India are prepared to pay, and will be given an opportunity of accepting the order at that price. If they are unwilling to do so, simultaneous tenders will be called for in England and in India.

The necessity for assisting the industry, however, arises from the fact that with simultaneous tenders and a ten per cent. duty there is a serious danger that the orders will be lost to Indian firms. The Government of India have, therefore, decided that the rate of duty on wagons and underframes and their component parts, other than wheels, axles, vacuum brakes and certain other component parts which are not made in India, should be raised to the rates applicable to fabricated steel generally, namely, 17 per cent. *ad valorem* if of British manufacture, and 17 per cent. *ad valorem plus* Rs.15 per ton if not of British manufacture. It is proposed that the increase in the duty should have effect for three years only, as it is hoped that at the end of that period it may again be possible to place orders on a normal scale."

Opposition in the Assembly.—When the Bill was referred to a Select Committee of the Legislature during the February-March Session, 1928, strong opposition was encountered. The Committee did not feel justified in agreeing to the Government proposals to raise the duties on the grounds that the measure of protection proposed in the Bill was in excess of the recommendation of the Tariff Board. They stated:—

"In our opinion any proposal to increase the measure of protection recommended by the Board must be supported by strong reasons; and after carefully considering the reasons given by the Government in this instance, we have come to the conclusion that they are not strong enough . . . we think it advisable to maintain the existing revenue duty of 10 per cent. and to arrange that all orders are placed in India."

The Bill, as amended by the Select Committee, was duly passed and the duty on wagons remains unchanged.

II. Component Parts of Wagons and Underframes.—(a) *Forgings.*—The Tariff Board conclusions were as follows:—

"(1) We consider that the manufacture of forgings should be regarded at present as merely a process incidental to the construction of wagons and not as a separate industry. It follows that when the demand for wagons is normal, the same duty should be imposed on imported forgings as on wagons and underframes.

(2) We think it important, however, during the next few years when the demand for broad gauge wagons will be small, and consequently the market

for wagon forgings restricted, that orders for forgings as spare parts should continue to be placed in India as far as possible, and that in comparing Indian with foreign prices an allowance of $2\frac{1}{2}$ per cent. above the revenue duty should be made."

The Government of India in their resolution accepted the finding and decided that forgings, other than wheels, axles, vacuum brakes and certain other component parts which are not made in India, should be subject to the proposed increased duty as component parts of wagons and underframes.

This proposal to increase the duty on forgings was opposed by the Select Committee as it was a corollary to the duty on wagons. The import duty therefore remains unchanged.

(b) *Steel Castings and Spring Steel*.—The Tariff Board recommendations were as follows :—

"(1) In our first inquiry we were unable to determine the extent of the market for steel castings and accordingly made no recommendation for protection in respect of this industry. We now find that the annual demand for steel castings is sufficient to permit of an economic output. We consider, therefore, that a good case has been made out for protection.

(2) In our opinion the best and most economical method of extending help to the industry is by means of a bounty.

(3) We accordingly recommend that on all steel castings manufactured by the Hukumchand Electric Steel Works for railway wagons, underframes and locomotives during the period October 1st, 1927, to September 30th, 1930, a bounty of Rs.2-8-0 per cwt. be paid to the Company, subject to a maximum of Rs.1,80,000 for the whole period.

(4) We recommend that subject to this maximum no restriction be placed upon the amount to be paid in any one year.

(5) We have not proposed any bounty on the manufacture of general engineering castings partly for administrative reasons but mainly because the evidence indicates that a somewhat higher level of prices is as a rule obtainable for these.

(6) Spring steel is as yet not manufactured on a commercial basis and we have not been able to obtain information as to the cost of production sufficiently reliable to justify an estimate of the protection necessary. We have therefore no recommendation to make in respect of spring steel."

Decision of the Government of India.—The Government of India, in their resolution of February 25th, announce their decision in the following terms :—

"The Tariff Board recomemnd the payment of a bounty of Rs.2-8-0 per cwt. on steel castings manufactured by the Hukumchand Electric Steel Works for railway rolling stock. It has been ascertained however, that besides the Hukumchand Electric Steel Works there is at least one firm, namely, the Kumardhubi Engineering Works, which is equipped to produce steel castings from indigenous materials and is thus not disqualified from earning the bounty proposed. It also appears from the Board's own figures that the effective railway demand is barely sufficient to keep one firm fully employed, so that with two firms in the field, it would not be possible for either to obtain sufficient orders to bring down costs to an economic level, especially as some of the railways manufacture in part their own requirements. In these circumstances the Government of India are of opinion that the conditions justifying protection for the manufacture of steel castings do not yet exist and they are therefore unable to accept the bounty scheme recommended by the Board. The higher duty on the component parts of wagons and underframes will in fact give the

makers of steel castings for the next three years a large part of the protection considered necessary by the Tariff Board. But the Government of India wish to make it clear first that the increase in the duty on castings is incidental to the increase in the duty on wagons and underframes and would not have been proposed on its own merits; secondly that steel castings have been made in the railway workshops for a number of years and that it is not intended to discontinue their manufacture; and thirdly that it is not the intention of Government to continue the protective duty on wagon castings when it again becomes possible to place normal orders for wagons.

The Tariff Board have no recommendation to make in respect of spring steel as it is not manufactured on a commercial basis, and reliable information is not available, on which an estimate of the protection necessary could be based. The Government of India accept this finding."

(c) *Bolts and Nuts*.—The Tariff Board conclusions were as follows:—

"(1) Bolts and nuts are at present produced in comparatively small quantities and we consider that present costs are no guide to the amount of protection required if large scale production were undertaken.

(2) There appears to us, however, to be good ground for the removal of the inequality of tariff treatment as between the Indian manufacturer and his foreign competitors which exists under the present Tariff Schedule.

(3) We, therefore, recommend that on all bolts and nuts falling under Article 61 of the Statutory Tariff Schedule a specific duty of Rs.2 per cwt. be levied in place of an *ad valorem* duty of 10 per cent."

The Government of India accepted the recommendation of the Board that on all bolts and nuts falling under Article 61 of the Statutory Tariff Schedule a specific duty of Rs.2 per cwt. should be levied in place of the existing duty of 10 per cent. The Select Committee concurred in the proposal and the new duty was embodied in the Steel Industry (Protection) Act, 1928.

III. *Wire and Wire Nails*.—The Tariff Board reported as follows:—

"(1) It appears that the main raw material for the manufacture of wire and wire nails, namely wire rod, will not be produced in India for at least three years, and consequently the industry fails to qualify for protection.

(2) Further, the only company which at present manufactures wire in India is the Indian Steel Wire Products Limited, and the debenture holders have applied to the Trustees that the Company should be put into liquidation.

(3) We, therefore, recommend that the protective duty on wire and wire nails be discontinued.

(4) We consider, however, that when the manufacture of wire rod on a commercial scale is established in India, the question may be reconsidered."

The Government of India accepted the recommendations of the Board, the Select Committee concurred and the protective duty of Rs.60 per ton on certain kinds of iron and steel wire has been removed from the schedule.

INQUIRY INTO THE QUESTION OF TARIFF EQUALITY IN RESPECT OF THE MANUFACTURE OF CAMEL HAIR, COTTON AND CANVAS PLY BELTING.

This was an inquiry in pursuance of Resolution 38-T (2) of the 25th March, 1925, in which reference was made to the Tariff

Board of representations to the effect that the development of certain industries in India was being hampered by the fact that the import duty on the finished article was lower than the import duty on the materials which have to be imported for the manufacture of that article. The applicants in regard to camel hair belting were Messrs. Birkmyre Bros., of Calcutta; in regard to cotton belting, Messrs. Birkmyre Bros. and the Bengal Belting Works, Calcutta; and in regard to canvas ply belting, Messrs. Tyabji & Company, of Rangoon.

After careful investigation the Board concluded that a good case for tariff equality had been established and made the following recommendations :—

Cotton Belting. The 15 per cent. *ad valorem* duty on imported black proofing should be abolished and duty of 5 per cent. *ad valorem* should be imposed on cotton belting.

Hair Belting. The 15 per cent. *ad valorem* duty on imported black proofing should be abolished and the duty on imported camel hair yarn should be reduced from 15 per cent. to 6 per cent. *ad valorem* and a duty of 5 per cent. *ad valorem* should be imposed on imported hair belting.

Canvas Ply Belting. A duty of 5 per cent. *ad valorem* should be imposed on imported canvas ply belting.

Decision of the Government of India.—In their Resolution No. 38-T (4) of the 10th February, 1928, the Government of India accepted the Board's recommendation that a duty of 5 per cent. *ad valorem* should be imposed on imported cotton, camel hair and canvas ply belting. They found it impossible, however, to accept the Board's proposal that the duty on black proofing should be removed, but they decided that the duty on camel hair yarn should be reduced from 15 per cent. to 5 per cent., instead of 6 per cent. as recommended by the Board.

The above proposals were approved by the Legislature and were duly embodied in the Indian Tariff (Amendment) Act, 1928, which was passed in March, 1928.

INQUIRY INTO THE PLYWOOD AND TEA CHEST INDUSTRY.

The subject of this inquiry was referred to the Board by the Government of India under Resolution 483-T of the 26th May, 1927, the terms of reference being as follows :—

" (1) The Assam Saw Mills and Timber Company, Limited, and the Assam Railways and Trading Company, Limited, have requested the Government of India to refer to the Tariff Board for inquiry the question whether the Plywood and Tea Chest industry in India should be protected.

(2) There was no import duty on tea chests and lead sheets for tea chests until 1916. A duty of 2½ per cent. was imposed in 1916 for revenue purposes, and this was raised in 1923 to the general rate of 15 per cent. It was then recognised that this increase of duty would incidentally assist the manufacture of tea chests in India, but an assurance was given by the Honourable the Commerce Member in the Legislative Assembly that an increase of duty would not have been proposed for protective purposes without a previous investigation by the Tariff Board.

(3) Imported tea chests and lead sheets for tea chests are ordinarily re-exported as containers for Indian tea and are then entitled to a refund of seven-eighths of the import duty under Chapter VI of the Sea Customs Act, provided that they are identified to the satisfaction of the Collector of Customs, and that the re-export is made within two years from the date of importation. Such identification may sometimes be possible, but would cause much trouble and delay both to the Customs administration and to the re-exporter. In view of the special circumstance that tea chests and lead sheets for tea chests are ordinarily imported for the purpose of subsequent re-export, the continuance of a revenue duty may be open to objection.

(4) The Government of India have therefore decided to refer the following questions to the Tariff Board :—

(i) Whether, having regard to the principles laid down in the resolution adopted by the Legislative Assembly on the 16th February, 1923, the plywood and tea chests industry should be protected ;

(ii) If so, in what form and for what period protection should be given ;

(iii) If not, whether, in view of the fact that tea chests and lead sheets for the chests are ordinarily imported for the purpose of re-export, the existing import duty of 15 per cent. should be continued."

Conclusions of the Board.—The Board summarised their findings and conclusions in the following terms :—

" (1) All the raw materials for the manufacture of plywood and of tea chests are available in sufficient quantities in India.

(2) The other conditions laid down by the Fiscal Commission are also satisfied. It does not, however, appear that the manufacture of plywood products other than tea chests requires any assistance at present.

(3) Such products, however, constitute a very small portion of the outturn of the existing factories which are mainly engaged in the manufacture of tea chests. Very severe competition has been experienced in recent years in Northern India from imported tea chests, and without some form of assistance the plywood factories will be forced to suspend manufacture.

(4) We are satisfied that if adequate support is now granted, the industry will be able to stand without protection within a reasonable period.

(5) We find that the fair selling price of a tea chest 19in. by 19in. by 24in. in India on a production of 5,00,000 chests annually may be estimated at Rs.2-15-6·4.

(6) We find the price of imported chests of the same dimensions (without duty) f.o.r. Calcutta is Rs.2-6-10·8.

(7) Allowing for the freight advantage of imported chests to the tea gardens, we find the adjusted import price comparable to the fair selling price of Indian chests is Rs.2-5-7·8.

(8) The difference between the fair selling price and the adjusted import price, viz., 9 annas 10·6 pies, represents the measure of protection which we consider necessary subject to slight further adjustment.

(9) We recommend that the present import duty on all plywood articles other than tea chests and rubber boxes should remain unchanged at 15 per cent. *ad valorem*.

(10) The duty on fittings of tea chests and rubber boxes and the linings of tea chests should remain unchanged at 15 per cent. *ad valorem*.

(11) The import duty on the plywood panels and battens of tea chests and rubber boxes should be abolished.

(12) A specific export duty should be imposed on tea chests other than those of which the plywood panels are of Indian manufacture.

(13) The export duty should be at the rate of 6 annas 6 pies per 100 lbs. of tea exported in chests of which the plywood panels are not of Indian manufacture.

(14) Of this sum 4½ annas per 100 lbs. of tea might be made over to the Indian Tea Cess Committee and the cess leviable under the Indian Tea Cess Act be reduced by 3 annas per 100 lbs. of tea.

(15) The views of the plywood companies should be considered by local Governments in connection with the enumeration or planting of trees suitable for the plywood industry.

(16) Steps should be taken to extend and improve the facilities for research at the Forest Research Institute, Dehra Dun, in connection with the manufacture of plywood. Local Governments should co-operate with the Institute in its investigations, especially as regards the suitability for the manufacture of ornamental plywood of trees available in sufficient quantities.

(17) The specifications for opium chests should be drawn up by the Opium Department in consultation with the Indian Stores Department and the Indian plywood manufacturers in such a way as to ensure that, so far as possible, effect is given to Government's policy of encouraging Indian industries.

(18) The period of protection should be fixed at five years.

(19) Since the season for the import of tea chests commences in November, early action should be taken to abolish the import duty on tea chest panels, so as to avoid the possibility of double taxation."

Decision of the Government of India.—The Board's report was published on February 16th, 1928, and on February 18th of this year the Government of India in their Resolution No. 483-T (4) made the following public statement of their views :—

"The Government of India accept the findings of the Tariff Board :—
(a) that the manufacture of plywood tea chests should be protected ; (b) that the protection required by the industry is 7 annas 9·6 pies per standard chest (excluding fittings and linings) ; and (c) that the protection given should be continued for a period of five years.

The Board have recommended that protection should be given by means of an export duty on all tea packed in chests which are not made in India. The Government of India consider the proposed method would lead to undesirable complications and they are unable to approve the imposition of an export duty for protective purposes. At the same time they are of opinion that the Board attached undue weight to the objections to the grant of protection by means of an import duty. The additional burden imposed on the tea industry by the duty will not be a heavy one, and where protection is the object to be attained and not revenue, the refusal of a drawback on re-export is not in their view open to objection in principle. They have therefore decided to introduce legislation imposing a duty of 30 per cent. on all forms of plywood and on battens and corner pieces of plywood chests, and abolishing the drawback at present admissible under the Sea Customs Act, 1878, on re-export. The 30 per cent. duty will in effect give the same amount of protection as was recommended by the Board. It is proposed for reasons of convenience in the Customs administration to apply it to all forms of plywood but the imports, other than tea chests, are very small and the Government agree with the Board that if they alone were in question no protection would be needed.

The subsidiary recommendations of the Tariff Board are under the consideration of the Government of India and will, where necessary, be brought to the notice of the local Governments concerned."

Almost immediately after the publication of the above decision the Government of India, on March 1st, 1928, introduced into the Assembly :—

The Plywood Industry (Protection) Bill.—The Bill proposed to increase the customs duty on plywood boards, panels and chests, and battens and corner pieces, such as are ordinarily used in plywood chests, from 15 to 30 per cent. It also proposed to abolish the drawback at present permissible on the re-export of imported chests. In introducing the Bill, Sir George Rainy, Hon. Member for Commerce and Railways, stated that as some members of the House felt that the time since the publication of the Tariff Board Report and the announcement of the decision of the Government of India had been too short to make it possible for them to deal adequately with the Bill if it were taken into consideration at once, Government did not propose to move for its consideration. The Bill will therefore come up for consideration at a later date. Meanwhile, very strong protests have been made by the leading bodies interested in the tea trade, e.g. the Indian Tea Association and the Bengal Chamber of Commerce.

REPORT OF THE INDIAN TARIFF BOARD REGARDING THE CHANGES IN THE TARIFF ENTRIES RELATING TO PRINTING PAPER.

In their Resolution No. 202-T (16) of the 19th May, 1927, the Government of India made the following reference to the Board :—

“ The Tariff Board in their report on the grant of protection to the paper and paper pulp industries recommended that “ newsprint ” should be excluded from the protective duty of one anna per lb., and should continue to be liable only to the revenue duty of 15 per cent. *ad valorem*. The evidence taken by the Board satisfied them that the newsprint commonly imported contained about 70 per cent. of mechanical wood pulp, and they proposed that for tariff purposes newsprint should be defined as “ printing paper containing not less than 65 per cent. of mechanical wood pulp,” the intention clearly being to exempt from the protective duty the newsprint commonly imported. Effect was given to the Board’s recommendation in the Bamboo Paper Industry (Protection) Act, 1925.

A question was recently raised whether the percentage should be calculated on the total weight of the paper, or on the weight of its fibre content, and the Government of India ruled that according to the wording of the Tariff Schedule the percentage must be calculated on the total weight of the paper. It has, however, been represented by importers that, if the law must be interpreted in this way, the effect will be to bring within the scope of the protective duty large quantities of imported newsprint which it was the intention of the Legislature to exclude. The Government of India have therefore decided to ask the Tariff Board to report whether any, and if so what, changes are desirable in those entries in the Tariff Schedule which regulate the duty payable on newsprint.”

Recommendations of the Board.—After careful consideration of the evidence adduced both by importing interests and also by the Indian paper industry, the Board recommended that the relevant Tariff Schedule should be framed as follows :—

Entry No.		Per.	Duty.
99		Un-	—
155	Printing paper (excluding chrome, marble, flint, poster and stereo) all sorts containing no mechanical wood pulp or in which the mechanical wood pulp amounts to less than 65 per cent. of the fibre content.	changed lb.	One anna.
156	Writing paper—		
	(a) Ruled or printed forms (including letter paper with printed headings) and account and manuscript books and binding thereof.	lb.	One anna or 15 per cent. <i>ad valorem</i> whichever is higher.
	(b) All other sorts	lb.	One anna.

These proposals were accepted by the Government of India and were embodied in the Bamboo Paper Industry Protection Bill, which was passed during the September Session of 1927.

INQUIRY INTO THE MATCH INDUSTRY.

In Resolution No. 235-T (14) of the 2nd October, 1926, the Government of India made the following reference to the Tariff Board :—

“ The present rate of duty on matches imported from abroad is Rs.1-8-0 per gross, which represents a duty of more than 100 per cent. *ad valorem*. The duty was raised to the above figure purely as a revenue measure, and the Government of India have consistently rejected requests from manufacturers in India that the duty should be declared a protective duty. Nevertheless, a high revenue duty naturally has a protective effect, and since 1922, when the present duty was imposed, numerous match factories have been established in India, some of them using indigenous woods, and others wood imported in the log from abroad. Concurrently, that has been a progressive decline in the Customs revenue derived from matches. This revenue amounted to Rs.154 lakhs in 1922-23 and Rs.138 lakhs in 1923-24, but in 1925-26 it amounted (inclusive of the revenue from splints and veneers) only to Rs.118 lakhs. As the Indian factories overcome technical difficulties and attain their full production, the decrease in customs revenue is likely to become more serious.

In these circumstances, the Government of India consider that the whole position requires investigation, and they have decided to entrust this task to the Tariff Board. The first point for inquiry is whether the three conditions laid down in paragraph 97 of the Report of the Indian Fiscal Commission are satisfied in the case of the match industry in India, and whether the industry should be protected. If the answer to this question is in the affirmative, the Tariff Board will report at what rate the import duty should be fixed in order to give the industry the protection it requires and whether alternative measures of protection could suitably be adopted. If the answer is in the negative, the Government of India theoretically will be free to lower the import duty on matches in the interests both of the consumer and their own revenue from this source. But the Tariff Board will report to what extent

vested interests have been created in India as the result of the present rate of duty, how far those vested interests require consideration and what prospect there is of the match industry in India establishing itself, if the present rate of duty is maintained. If the Tariff Board decides that consideration must be paid to the industry brought into existence by the present rate of duty and that the duty should be maintained at the present figure, or approximately at the present figure, it will further report whether the loss of customs revenue can be made up in whole or in part by any other appropriate form of taxation of the industry. In this connection, the attention of the Board is drawn to the remarks of the Honourable Commerce Member on the 24th March, 1924, in the Council of State. Generally the Tariff Board will investigate the whole question and make such recommendations as seem germane to the subject."

The Board were engaged during the greater part of 1927 and the beginning of 1928 in investigating this most intricate and difficult question. Their report has been submitted to Government but is still (June, 1928), under consideration by Commerce Department. Neither the report nor the decision of the Government of India has yet been published.

INQUIRY INTO THE OIL INDUSTRY.

On the 26th March, 1928, the Government of India, in their Resolution No. 141-T (39), made the following reference to the Tariff Board :—

" The Government of India have received representations from a number of companies engaged in the production of petroleum in India asking for protection against the injury inflicted on them by the kerosene price war now in progress in India between the Standard Oil Company of New York and the Royal Dutch Shell group. The immediate cause of the price war is said to be the purchase by the Standard Oil Company of New York from the Soviet Government of Russia of kerosene which, as the Royal Dutch Shell group claim, rightfully belongs, wholly or in part, to them. The companies state that as a result of the price war, kerosene is being sold at prices well below world parity, and it is from the serious losses consequent on these uneconomic prices that they ask for protection. The representations indicate that, while some of the producers do not regard their existence as threatened by the dispute, the position of the weaker companies is such that a continuance of the price war might lead to their extinction.

The Government of India are not prepared to agree to any scheme of protection which would lay a heavy burden on the consumers, if the result must be, so far as the principal producers are concerned, not to secure a moderate return on the capital invested in the business but to increase profits unnecessarily. It is possible, however, that measures could be devised by which substantial relief could be given to those companies which are most in need of it, while at the same time a disproportionate share of the higher price paid by the consumer would not pass into the hands of the stronger firms.

In order that this question may be examined, the Government of India consider that an immediate inquiry should be held by the Tariff Board with the following terms of reference :—

- (1) To determine what price for kerosene should be taken to be equivalent to world parity at Indian ports, and the extent to which current prices in India are below that level.
- (2) To report whether it is in the national interest that protection against the dumping of imported kerosene should be given, and if so, in what form and for what period; and

(3) To report whether it is likely that the price war will extend to petrol, what the consequences to the Indian producers are likely to be if it does, and in that case what measures they would recommend.

The question to be investigated in the inquiry is the advisability of taking steps to safeguard an Indian industry from injury inflicted by dumping, that is, the sale of imported kerosene in India at prices below world parity. In these circumstances, the Government of India consider that no detailed examination of the costs of production will be necessary, and that it will suffice to ascertain by more summary methods the probable effect of the price war on the financial position of the Indian producers. The report of the Tariff Board should reach the Government of India at the earliest possible date, and in any case not later than the 1st July, 1928."

The Board have completed their investigations but, at the time of writing (June, 1928), their report has not been published. Meanwhile it is understood that the British and American oil interests have arrived at an understanding and the prices of kerosene have advanced six annas per unit of eight gallons.

CHAPTER IV.

AN ACCOUNT OF THE PROGRESS MADE DURING THE PAST YEAR IN CERTAIN OF THE MORE IMPORTANT IRRIGATION, HARBOUR, HYDRO-ELECTRIC AND OTHER PROJECTS IN INDIA.

1. IRRIGATION.

Punjab.—I am indebted to the Chief Engineer, Irrigation Works, Punjab, for the following progress report on the several irrigation works, either under construction or projected, in the Punjab :—

Sutlej Valley.—The last report gave progress up to June, 1927. The information below carries us on to June, 1928 :—

Headworks and Canals.

Ferozepore.—The headworks were completed in 1927, and His Excellency the Viceroy presided at the opening ceremony in October, 1927.

In addition to a weir the river is completely controlled by counter-balanced gates, and the bridge provides for the main broad gauge State Railway connecting Bombay with Peshawar, for which the girders are now being laid. The three canals, the Bikaner and Eastern Canals on the left bank, and the Dipalpur Canal on the right bank are complete, and the distributary system is being extended to cover the whole area commanded by this headwork.

Suliemanke.—These headworks were completed and formally opened by His Excellency the Governor of the Punjab in April, 1926. This weir is also designed to take a broad gauge line of the North-Western Railway, combined with an eighteen feet wide public road, which provide a most important link in railway and road system of the Punjab.

Irrigation has commenced on all the three canals, which are supplied from this headwork. A considerable amount of work remains to be done on the distributary system of the Eastern Sadiqia Canal, which irrigates a waterless tract of land in Bahawalpur State, where work was hampered by lack of water until the Canal was opened.

The distributary systems of the Fordwah Canal, also of Bahawalpur, and of the Pakpattan Canal, except for extensions which are gradually being carried out, can be considered complete.

Islam.—The formal opening of the headworks by His Excellency the Viceroy took place in October, 1927. The Qaimpur and Bahawal Canals of Bahawalpur State on the left bank, and the Mailsi Canal on the right bank, for British Territory, take their water from this headwork. The construction of the Qaimpur Canal is well advanced and irrigation has commenced on this Canal, as also on the Mailsi Canal.

The Bahawal Canal construction has proceeded slowly waiting for water which could only be supplied after the completion of the headworks. Now water has been supplied the progress will be quickened up. Work on the distributary systems are well in hand.

Panjnad.—This is the fourth and only weir remaining to be constructed. The design was considered in 1926-27 for the first time, and by the end of the year 1927 the Canal Railway to the weir, the protection bunds for the weir area, and the buildings for the staff had been completed. The excavation for the foundations of the weir was commenced in the cold weather of 1927, and work is well up to programme. Work on the Abbasia Canal started in 1926-27 and is progressing satisfactorily.

The digging of the Panjnad Canal, which is the largest canal in the project, was commenced in October, 1927, and very rapid progress has been achieved. The designs for the distributary system are under preparation.

Haveli Project.—The recasting of this project referred to in last year's report has been in progress during the year.

This project and the *Lower Thal Project* are now both held up pending a conference to be held in Simla early this summer, and further progress in these projects will depend on the result of this meeting.

Jalalpur Project.—This project is still under consideration. The area to be irrigated by this project lies in a strip of country along the right bank of the Jhelum at the foot of the Salt Range. The various canals of the project are crossed by numerous torrents issuing from these hills, and adequate provision was not made in the original project for passing their water across the canal area. The water brought down by these torrents is excessively alkaline, and it is essential for the reclamation of a large part of the area to be irrigated by this project, that the water of these torrents should be conveyed into the river without being allowed to spread over the culturable areas. An investigation of the engineering and financial practicability of this is now in progress.

Bhakra.—The situation on this project now is that the site has been approved and a dam 500 feet high with a storage capacity of $4\frac{1}{2}$ million foot acres of water is being recommended as preferable to the original proposal to build a dam 100 feet lower and store $2\frac{1}{2}$ million foot acres of water.

The completion of the Sutlej Valley project with canals taking off from the Sutlej with a total head capacity of 37,917 cusecs will utilise the supplies in that river to such an extent that surplus water will usually only be passed below the lowest headworks to the Chenab from July to October. The Bhakra project can therefore only affect the supplies passing to the Chenab and Indus during that period when there is more than ample water available in the Indus for Sind, hence Bhakra project will not adversely affect the interests of Sind canals.

Sind. Lloyd (Sukkur) Barrage and Canals Construction Project.—The following report on the progress of the work done on the Lloyd Barrage and Canals Construction Project to the end of March, 1928, has been very courteously provided by the Secretary to the Government of Bombay in the Public Works Department :—

RIGHT BANK SYSTEM.

North-Western Circle.—The field work of the Shahdadt and Ratodero Branches and their distributaries and minors was completed and the final alignments were laid on the ground and demarcated. The surveys of (1) the Kur Biro Canal which is to be utilised from mile 16 to 24 for D.I.R.; (2) the Shahdadt Branch and D.I.L./D.I.R. ex the Shahdadt Branch; (3) the portion of the Manghirwah which is proposed to be utilised from M.2.R. of the Ratodero Branch; (4) Arzi Bhuto and Warisdino distributaries ex the Shahdadt Branch were completed and their longitudinal and cross sections were plotted. Similarly, the survey and levelling of the Warisdino Machi branch, tail portion of the Sukkur Canal and Kur Muksodawah and about seven miles of levelling of the tail distributary along the Idan wah and beyond, including flying levels, ranging, jungle cutting and nicking out of the centre line of M.I.L. were completed. Owing to a discrepancy in the theodolite work the first six miles of the Shahdadt Branch were redone and cement concrete rail bench marks fixed at every half mile. The projects for remodelling the Begari Canal and for the Sultankot Branch were completed.

2. The quantity of earthwork excavated by the Ruston dragline machines which were under overhaul during the commencement of the quarter and were employed on excavating the North-Western Perennial Canal upwards from tail amounted to 1.57 crores cft. of earthwork. The excavation of the central

strips of the Central Rice and North Western Perennial Canals and portions of the North Western Perennial, Central Rice and Dadu Canals, including the portions left undone by the machines for various reasons was let on contract and the quantity excavated amounted to 2.43 crores cft. of earthwork. The soil met with in the shallower portions on the rice areas was very hard, but it gradually changed into a softer soil as the machines approached deeper cutting and towards the end of the quarter very soft and sandy soil was met with, which caused clouds of dust with each bucket and made the work, especially at night, more arduous. Tube wells were sunk for water supply for the draglines. The cutting of the side slopes of the North Western Perennial and Central Rice Canals to the designed sections and improving and levelling the beds of the canals were practically completed. The dressing of the spoil banks and side slopes continued side by side with the machines.

3. The two 50-B Diesel driven dragline excavators were employed on the Khirtar Branch and excavated a length of about 2 miles. The total length excavated is about 8 miles. The progress by manual labour on the Khurtar Branch and its distributaries was satisfactory. The total quantity of earthwork done both by the machines and manual labour amounted to 2.27 crores cft. of earthwork. The cutting of side slopes and dressing of banks were extended up to mile 13. Service roads were completed in a length of 40 miles. The No. 6 Ruston dragline machine continued to excavate the Ratodero Branch and excavated 8.19 lakhs cft. of earthwork. The low output was due to the machine being under repairs. The excavation by manual labour by piece work contract on the Shahdadkot, Ratodero Branches and their distributaries and minors amounted to 1.32 lakhs cft. of earthwork.

4. The total quantity of earthwork done and that required to complete the work in this Circle on main canals and branches and distributaries is approximately as under in crores cft. of earthwork :—

	Earthwork remaining to be done to complete the work.	Quantity done to end of March, 1928.
(1) Main Canal and Branches	28.0	35.0
(2) Distributaries	17.8	2.9

5. The buildings at Jahanshah, Bago Dero and Sujawal were completed and those at Kubo Said Khan were in progress. The work of regulators and bridges was let out on contract. The miscellaneous work consisted of the preparation of designs of distributaries and minors ex the Ratodero, Shahdadkot, Warisdino Machi, Bagh and Kabula Branches. Site plans for intermediate regulators over the North Western Perennial Canal, taking sub-soil water levels, preparing service roads along main canals, distributaries and minors, excavation of boundary trenches along distributaries and minors and acquisition of land in British and Baluchistan territories.

Western Circle.

6. The investigations into the final alignments of distributaries and minors ex the Dadu Canal miles 16-82 were completed and the designs prepared for some distributaries. With a view to reduce the cost of construction of distributaries and to obtain a better distribution system a number of small changes in the alignment of distributaries and minors ex the Dadu Canal mile 82 to tail were investigated and the new alignments laid on the ground. Owing to change in the discharge and irrigation boundary the rough design of the Johi Branch was revised and finally adopted. The tail portion of the Dadu Canal was redesigned to get more favourable levels, and this necessitated slight changes in the alignments of D-10-R and D-12-R. The alignments of D-8-R and D-12-R, where they cross the railway, were altered to cross at right angles. The earthwork estimate for D-12-R was taken in hand and those for D-8-R and D-11-R were nearly completed.

7. The revision of areas necessitated by the adjustment of Divisional Irrigation boundaries between the Rice Canal, Southern Dadu and Warah Branch Divisions and also on account of the fresh soil survey classification statements was completed. This has caused a slight modification in the discharges of the channels. The work of the formation of new irrigation units to be commanded by the Bاده and Radhan Branches as well as by the minors ex the Rice Canal was completed. The detailed earthwork estimates for the New, Sihar and Ghar Branches were completed. Closer investigations were made in connection with the natural irrigation boundaries of the various branches and distributaries as defined by existing "peechees" and valley lines. These have given very useful information which will be quite valuable when the field water courses are laid on the ground. The question of re-arrangement of distributaries on the Warah and Mirokhan branches rendered necessary on account of the unequal Rabi and Khariff discharges and also with a view to save masonry structures on the Larkana Shahdadkot Railway was finally decided. The problem of providing an adequate supply of water for dry kharif cultivation after allowing the required discharge for the established rice area was considered and a revised statement of discharges prepared for all the channels. The rough design of the Madeji Distributary and D.I.L. ex the Mirsokhan Branch was revised and approved and earthwork estimates were taken in hand. Similarly the rough design of D.3.L., D.5.L. and D.7.L. were prepared. The land widths of several distributaries were marked and nicked out and levelling along the centre line of some of these was completed.

8. A new Division called the Manchar Drainage Division was opened and organised. Proposals in connection with the storage capacity of the Manchar Lake, the alignment of the Manchar Drain, and the disposal of the hill torrents from the North Western Circle were formulated. The plotting of surveys in connection with the Manchar Drainage Scheme was continued and discharges of the Gaj and other Nais were tabulated. Various alternatives for diverting the water of the Nais were investigated. Detailed contour survey of hills below the Sehwan Railway Station was made with a view to find the cheapest alignment for drainage through these hills. The alignments of the drain and the Manchar containing Bank were approved and instructions were issued to dig trial profiles on the line of the proposed drain through the hills, as the soil varies from sand to hard murum in this length. Longitudinal and cross sections of the Aral Laki were taken showing the effect of the bund thrown across the Charlowah and on the erosion of the river near Sehwan. Statistics were collected in connection with the silting of the Aral Manchar and Aral Laki Channels. Figures of cultivation outside the Flood Protective Bund were collected.

9. Good progress was made with the excavation of canals both by dragline excavators and by manual labour. On the Central Rice Canal the excavation from Ruk to Larkana was continued by two large dragline excavators and about 1.82 crores cft. of earthwork were excavated. From Larkana to the tail of the Rice Canal the work has been let out on contract partly to Zamindar contractors and partly to Pathan and Borhi contractors. The quantity excavated by manual labour amounted to 3.3 crores cft. of earthwork. In miles 16 to 35 of the Dadu Canal the excavation work programmed to be done by the two 135 Ruston machines was completed ahead of the scheduled time and the machines were transferred to the Warah Branch. The remaining length of the Dadu Canal in Northern Dadu Canal Division from miles 35 to 82 has been divided into three lengths and the work let out on contract partly to Zamindar contractors and partly to professional contractors. The two 30-B machines employed on the Dadu Canal in the Southern Dadu Canal Division excavated about 34.6 lakhs cft. of earthwork in a length of 5 miles. The total length excavated by these machines is 22½ miles. The one 50-B machine employed on the Johi Branch excavated 27 lakhs cft. The total length excavated by this machine is 15½ miles. The two 6 Rustons employed on

Distributary 8-R excavated about 18.95 lakhs cft. in a length of 3 miles. The two 50-B, the two 30-B, and the two 135 Ruston machines employed on the Warah Branch excavated about 1.79 crores cft. of earthwork. The quantity of excavation done by manual labour on the Dadu Canal, Warah Branch and distributaries and minors amounts to 1.60 crores cft. of earthwork. The total quantity of earthwork done and that required to complete the work in this Circle on main canal and branches and distributaries is approximately as under in crores cubic feet :—

	Quantity remaining to be done to complete the work.	Quantity done to end of March, 1928.
(1) Main Canal and Branches	53.8	32.0
(2) Distributaries	28.7	0.5

10. The buildings under construction were completed while some new buildings were taken in hand. The construction of intermediate and tail regulators on the Rice and Dadu Canals, Johi Branch and Warah Branch were taken in hand. Similarly the two fall regulators on the Rice Canal and a number of steel and masonry bridges were taken in hand. The miscellaneous work done in this Circle consisted of preparation of plans and estimates for the remaining regulators, fall regulators and bridges on the three canals, planting trees along canals, dressing of banks, making service road, excavating boundary trenches, fixing rectangulation bench marks and taking sub-soil water observations.

LEFT BANK SYSTEM.

Rohri Canal Circle.

11. Surveys of the alternative proposals regarding the change in the alignment of distributaries and minors ex the Mehrabpur and Naulakhi Branches in the Rohri Canal No. I division and the surveying, ranging, levelling and lock-spitting of certain channels and the survey of distributaries and minors ex the Thul Branch System and a few minors of the Tando Adam and Jam Branches in the Rohri Canal No. III. Division were completed. Similarly the earthwork estimates of the main canal from head to tail of the Mehrabpur Naulakhi Branches, of the tail distributaries and minors ex the Nulakhi System, of Escape No. 2, of the Alibahar, the Dad, the Surfraz, the Nasir, the Hyderabad Branches and of several distributaries and minors were completed. Statements of lift areas and probable earthwork for Tando Adam Branch and its distributaries and minors, tails distributaries ex the Shahdadkot and Thul Branch Systems and distributaries ex the Hyderabad Branch were approved.

12. Good progress was made with the excavation of earthwork by dragline excavators in the Rohri Canal No. I Division. On the completion of the Khairpur Feeder East by the two class 20 Bucyrus machines, one was transferred to the Rohri Canal No. V Division and the other to the Left Works Division of the Lloyd Barrage Circle. Similarly the two class 300 Ruston dragline machines were transferred to the Rohri Canal No. II Division. The quantity excavated by the two large and one 30-B machines in the Rohri Canal No. I Division amounted to 1.57 crores cft. of earthwork. In the Rohri Canal Nos. II and III Divisions the two class 300 Ruston and five 30-B machines excavated about 2.28 crores cft. of earthwork. In the Rohri Canal No. V Division the machines excavated a total quantity of 1.61 crores cft. of earthwork. The excavation by manual labour in the circle amounted to 2.96 crores cft. of earthwork. To accelerate the progress, earthwork by manual labour is being vigorously pushed on. The total quantity of earthwork done and that required to complete the work in this Circle on main canals and branches and distributaries is approximately as under in crores cft :—

	Quantity remaining to be done to complete the work.	Quantity done to end of March, 1928.
(1) Main Canal and Branches	106.0	41.0
(2) Distributaries	84.4	5.1

13. A number of buildings were completed and good progress was made with those under construction. The construction of bridges in the Rohri Canal Nos. II and V Divisions was taken in hand. Site of regulators were surveyed and site plans and cross sections prepared. The miscellaneous work consisted of acquisition of land, demarcation of land widths taking sub-soil water levels, jungle cutting and making inspection paths, fixing field boundary stones along various channels, and construction of rectangulation bench marks.

Eastern Nara Circle.

14. The project for remodelling the Mithrao Canal was nearly completed. It had been held in abeyance pending a decision on the question of established rice, which has now been finally decided. Good progress was made with the project for remodelling the Jamrao Canal. The alternative project for the Naokot Branch and its distributaries and the earthwork estimates for distributaries ex the Nabisar Branch, the Thar Canal System, the Hiral Canal and its distributaries, were sanctioned and arrangements made to put the works in hand.

15. The 50-B machines continued the excavation of the Khipro Canal and have excavated a total length of 33 miles. The dressing of the side slopes in this length was also done simultaneously. The four 30-B machines were employed on excavating the Samarjo and Nabisar Branches both of which were completed. They are now employed on the Naokot Branch and the distributaries ex the Samarjo and Nabisar Branches. Good progress was made with excavation by manual labour. Earthwork of containing banks along the Nara from Jamrao head to Makhi Weir, the right containing bank and the left protective bank were completed, thus finishing 42 miles out of the 100 miles to be done according to the Project. Good progress was made with the Flood diversion banks from Makhi Weir to Khipro Weir and Khipro Weir to Thar Weir. Of the cuts Nos. 9, 10 and 11 to the Eastern Nara cut No. 9 were practically completed. Similarly the Sufti distributary ex the Thar Canal and the new distributary R.S. Hiral Canal were practically completed. Good progress was made with the distributaries ex the Khipro and the Samarjo Branches. A number of buildings were completed and good progress was made with those under construction. The construction of regulators and village road bridges, was taken in hand. The miscellaneous work consisted of sub-soil water level observations, weekly discharge observations, acquisition of land and fixing boundary stones.

16. The total quantity of earthwork done and that required to complete the work on the main canal, branches and distributaries is approximately as under in crores cft. :—

	Quantity remaining to be done to complete the work.	Quantity done to end of March, 1928.
(1) Main Canal and Branches	50.0	23.0
(2) Distributaries	50.0	3.8

Lloyd Barrage Circle.

17. The Inspection Bungalow at Sukkur, the second batch of establishment quarters on the Right and Left Bank, cooly lines, blocks of workmen's huts and the alignment towers for the Barrage on the right and left bank were completed. The new "Masan" and its subsidiary buildings were practically completed and will shortly be handed over to the Sukkur Hindu Panchyat. Good progress was made with the construction of the third batch of

establishment quarters on the left bank. Railway sidings were laid at the quarries, cofferdams and the remaining works area as found necessary and the existing lines maintained in a serviceable condition.

18. The masonry work of the regulators on the right and left banks which form the flanks of the barrage, with their wing and connecting walls were completed up to the springing level of the gate and road bridge. The centreings for arches were assembled and put into position on the right bank and the construction of 6 road bridge arches on the rice canal was in progress. The second and third length of the cast iron grooves was being completed by the contractors. The cofferdams on the right and left banks for constructing the barrage, scouring sluices and the regulators on the Dadu Canal and the Khairpur Feeder West were completed. The bed of the cofferdam on the right bank, which was closed with great difficulty owing to the main channel of the river passing through the site of the cofferdam, was scoured out to a depth of 44 feet, so that no excavation was possible by the dredger, but on the contrary the side slopes had to be dredged in from outside. This was completed, and cofferdam unwatered, after which the filling of the deep parts was carried out by dredger depositing sand from the river bed through the pipe line carried over the piling. On the right bank about $2\frac{1}{2}$ spans of the main floor were practically completed, and the lower masonry in half the remaining part was well advanced. On the left bank the masonry on the downstream apron of the barrage and its concrete paving and the central floor was practically completed. Pitching of the up and down stream talus was in progress. The superstructure of the regulators over the Dadu Canal was completed to R.L. 190, and that of the Khairpur Feeder West to R.L. 194. The sills and grooves in both spans of the Kahirpur Feeder West were erected. Good progress was made with the downstream left guide bank. The manufacture of composite concrete blocks was continued in the block moulding yards.

19. The ninth pile driving plant was completed, tested and taken over from the contractors, both the floating and land pile drivers were employed on the cofferdams and adjusted as required. Similarly the floating pumping plants were taken inside the cofferdam and moved as necessity demanded. The 25 ton and 10 ton electric floating cranes fitted with new interlocking arrangements were employed on both banks on shifting, loading and unloading piles and other materials. The 10 ton and $1\frac{1}{2}$ ton hand operated Scotch derrick cranes were dismantled and re-erected as required. Some of these cranes were converted into electric drive and the work of converting the remaining ones was in hand. The motor driven compressor worked continuously for supplying air for rivetting etc., in the ship building yard. The mortar mills on both flanks were kept busy as required.

20. The workshops on both banks of the river were occupied with miscellaneous work. Electric power was available day and night. The total units generated during the period were 924,224. The machines were well maintained and were overhauled as required. In addition an arrangement was made to inter-connect the water cooling tanks for the large and small engines so that any engine may be put on to any cooling water tank. Endurance tests were run on the four large engines, the test on each consisting of 168 hours continuous run or normal daily load. This test was carried out as specified in the contract, and all the engines passed through with credit. On the distribution and transmission system a large amount of miscellaneous work was carried out, such as cabling and floating pumping units and portable pumps, alterations to the cables for floating cranes as required, additions and alterations to the works lighting system as required, extension of 440 feet for goliath crane trolley line in the block moulding yard on the left bank, etc. All the machinery in the stone dressing shop was completed, and it is now one of the largest and best equipped stone dressing shops in India. Large quantities of stone required for the barrage and regulators and for lime burning were quarried. The demand for rubble and lime stone for burning were fully met,

and large reserves accumulated at all quarries to meet any urgent demands. The schemes for water supply for domestic purposes as well as for works areas were completed.

21. The dredgers "Ruk" and "Rohri" were employed on pumping sand outside the cofferdam piling, and on forming sand slopes inside the cofferdams. The three tugs and four launches were fully employed on towing crane and pile driving pontoons, barges and other craft and for conveying labour across the river.

22. Kilns for the continuous and the intermittent type for the manufacture of fat and hydraulic lime were fully employed, and the lime manufactured was used on preparing lime mortar for the regulators and barrage scouring sluices.

23. All buildings and plant constructed in previous years were kept in good repair and in good working order. The quantity of earthwork done both by draglines and manual labour on the Nara Cut amounted to 1.68 crores cft. of earthwork.

24. The total quantity done and that required to complete the work in this Circle is approximately as under in crores cft. :—

	Quantity remaining to be done to complete the work.	Quantity done to end of March, 1928.
Eastern Nara Cut	25.5	2.5

GENERAL.

25. The four Canal Circles have been occupied in surveys, preparation of working designs of canals, acquisition of land for canals, construction of buildings and the excavation of main and branch canals both by mechanical and manual labour. The designs have been prepared for all main canals and for most of the branch and major subsidiary channels, and excavation has been carried out during the year with 44 dragline excavators of various types. Two more dragline excavators are in the course of erection. There will thus be 46 of various sizes in operation during the year 1928-29, the largest group of such excavators ever assembled anywhere in the world. An important feature of these machines is that they can be worked daily for 24 hours for 5½ days a week, and during the hot weather months when it is almost impossible, owing to the intense heat, to do any earthwork in Sind by manual labour, these machines keep on with their work.

26. The total amount of earthwork remaining to be done according to the working estimates prepared and under preparation is approximately 409 crores cft., and the total quantity done to end of March, 1928, is 146 crores. The total capacity of the 44 dragline excavators which have been working during the year under report is roughly 70 tons of earthwork excavated and dumped per minute or 1.2 tons per second night and day for 5½ days a week and 250 days in the year. This represents the labour of nearly 30,000 men working all the year round or about 70,000 working for five months of the year, the usual short season in Sind for this type of manual labour.

27. A rectangulation survey of the area under command of the canals of the scheme excluding Khairpur State is being carried out by the Survey of India at the expense of the project. This work has as its ultimate object the standardisation of the size and shape of each survey number, each number being 16 acres in area. It is expected that the Survey of India will complete its part of the task—the splitting up of the commanded area in main rectangles measuring 2.5 miles by 1.6 miles, and minor rectangulation to 320 acre rectangles by the end of the year 1930. The further subdivision of these rectangles into 16 acre plots will be carried out by the staff under the Revenue Officer of this Scheme.

28. The work of the acquisition of land for canals, branches, distributaries, etc., has been continued by the Special Staff under the Revenue Officer. During the year 7,714 acres were acquired at a cost of Rs.8,53,000 at an average rate of Rs.110 per acre.

List of special tools and plant proposed to be purchased in the year 1928-29.

Railways.

1 mile.	Railway track.
3 miles.	Light Railway track (2 ft. gauge).
20 Nos.	Wagons.
100	Tip wagons.
10	Points and crossings.
4	Signals.
6	Electric Locos and Convertors.

Fleet.

16	Buoys.
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Cranes.

Lump.	Spares for floating electric cranes.
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Pumping Plant.

Lump.	Spares for pumps for cofferdams.
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Pile Drivers.

Lump.	Spares for pile drivers.
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Diving Gear.

4 sets.	Diving gear.
2 Nos.	Electric hand lamps.
6 Nos.	Submarine lamps.
Lump.	Spares.

Workshops.

Lump.	Spares and miscellaneous additions and alterations.
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Water Supply Plant.

Lump.	Miscellaneous additions and alterations.
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Mortar Mills.

Lump.	Spares.
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Electric Power Plant.

6 miles.	Electric wiring for running of light railways.
Lump.	Other miscellaneous alterations and additions, transmission lines.
Lump.	Spares.

Miscellaneous Plant.

Lump.	Pumps, motor, and other miscellaneous plant.
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Block Yard Plant.

18 sets.	Sills and grooves for Barrage gates.
1,283 tons.	Steel sheet piles.
Lump.	Spares for dragline excavators.
50 tons.	Gates (Stoney) for regulators.
50 tons.	Roller boxes, cast iron grooves and other accessories.
33 tons.	Gates (Stoney) for regulators.
33 tons.	Roller boxes, cast iron grooves, and other accessories.
15 tons.	Iron gates for regulators.
15 tons.	Accessories for regulators.
1	Power hammer for handling large shafts for ends, etc., which have to be forged or repaired for making shackles or other heavy parts.
1	Oil grooving machine for bushes.
1	Press for putting on and taking off gears.
1	Annealing muffle for welded repairs.
Lump.	Small fixture and special tools and fittings for machines to cope with manufacture of oil engine parts or repairs of a special sort.

	<i>Compressed Air Plant.</i>	
1	Sentinel vertical 2 stage belt driving air compressor 90 cft. with air receiver 2½ ft. by 6 ft. complete.	
	<i>Workshop Plant.</i>	
2	Complete sets of accessories for shanking and biting $\frac{7}{8}$ of an inch hollow, and hexagonal drill steel (hexagonal shank and bit).	
1	Complete set of accessories for shanking and biting $\frac{1}{4}$ in. round drill steel.	
	<i>Rock Plant.</i>	
12	B.B.R. Jack hammers.	
1	Planing machine canting arm type.	
4	Planing split pulleys for main shafts 3½ in. for planing machines canting arm type.	
Lump.	Tools, steel blades, etc.	
	<i>Lifting Plant.</i>	
1	Overhead travelling crane 10 ton.	
	<i>Railway Plant.</i>	
1½ Mile	Railway 2 ft. gauge.	
45	Tip wagons.	
3	Material trollies.	
Lot.	Spares for 300 Ruston Machines.	
"	Spares for 135 Ruston Machines.	
"	Spares for 320 Bucyrus.	
"	Spares for 50 Bucyrus.	
"	Spares for 30 Bucyrus.	
"	Spares for 20 Bucyrus.	

Madras. The Cauvery-Meter Project.—The Engineer-in-Chief of this project has kindly supplied the following note on the progress of the scheme and the items of plant and machinery either already installed or contracted for :—

In 1924 the Secretary of State sanctioned an irrigation project in the Madras Presidency to include a reservoir of 93,500 M.c.ft. or 2·15 million acre feet capacity on the Cauvery river and new irrigation in the Tanjore District, some 130 miles downstream of the dam, amounting to 301,000 acres of rice crop.

The Cauvery takes its source in the Western Ghats where the average rainfall at Bhagamandla, near the source of the river, is 230 inches (maximum 400 inches) ; at the dam site some 230 miles downstream, the average rainfall is 30 inches (minimum 18 inches). The river already irrigates over 1 million acres of rice in the Madras Presidency, but its supply is fluctuating as might be expected from the nature of its basin. During the south-west monsoon, June to September, the river is in flood, but there is little or no rain in the irrigable area on the east of the Peninsula. During the north-east monsoon, October to December, the irrigable area is liable to heavy rains ; river flow in this monsoon will generally be conserved and used for early transportation of crops in the following June. The project will ensure a steady supply to the million acres already cultivated, besides making possible an extension of over 300,000 acres.

The project was drawn up in 1910 by Col. W. M. Ellis, R.E., of the Madras Public Works Department. A dispute arose between the Madras Government and the Mysore State as to the relative water rights and the Secretary of State refused sanction till a compromise was effected. After 10 years of daily river gaugings, an agreement was reached which was satisfactory to both parties and limited the capacity of reservoir and the extent of new irrigation as indicated above.

The design of 1910 was on the usual Indian practice of a dam built by hand of rubble masonry in lime mortar. In 1924 the view was held that construction by manual labour would be too slow. Hence it was proposed to alter the type to cyclopean masonry and use plant on a large scale. This view has recently been modified further owing to new developments arising from the availability of good cement in India from factories built since the war. The Government of India have now approved of a change of material to cement concrete poured *in situ*, and for this purpose orders for plant have been placed. The use of cement will add to the cost but will increase speed of construction and accelerate the revenue returns to such an extent that the extra outlay is more than compensated.

In 1924, an abnormal flood of 456,000 cusecs occurred at the dam site against a 65 year record of only 330,000 cusecs. This necessitated a dam higher than was originally proposed, and also a change of site. The new site which is about a mile upstream of the old site, gives better surplus facilities.

The original rubble dam was designed for a maximum stress of 8 tons per square foot calculated by Bouvier's method. The cement concrete dam is designed for a maximum stress of 10 tons per square foot, and will contain about 48 M.c.ft. of concrete. The overall length of the dam is 5,300 feet, and the greatest height 230 feet. Though neither of these figures are unusual, yet the combination of height and length is such as to make this dam the biggest in the world in cubical content. In consequence of the above alterations of design, etc., the cost of the whole project is now estimated at Rs.737 lakhs.

The foundations of the dam are sound charnockite rock, a granitic formation. The main surplus escape on similar rock will have not less than 16 vents, 20 feet high and 60 feet long, fitted with Stoney gates capable of discharging an even higher flood than the highest recorded. There will be 2 or 3 tiers of irrigation sluices each to discharge from 20 to 30 thousand cusecs. Construction machinery should be erected before July, 1929, and if this forecast be correct it is hoped to finish the dam in November, 1933, and to begin irrigation in 1932.

In the headworks accommodation has been provided for all officers and staff. In addition, a camp at the dam, for a labour force of 5,000 coolies has been constructed. There is a hospital with 32 beds. Provision has been made for markets, shops, etc. A water supply estimated at 600,000 gallons a day maximum capacity is being installed with Paterson filters. A drainage scheme is also in progress and disposal will be made by means of a sewage farm. The drainage and water supply schemes will be completed in August, 1928.

A well-equipped workshop has been erected for the repairs and maintenance of the plant used in construction. A power house has been built; it contains at present 5 Ingersoll-Rand Compressors each 500 cft. per minute, free air capacity, and two 165 B.H.P. Mirrlees Bickerton sets with alternators for lighting the camp and supplying power to the preliminary plant. It was originally proposed to add 5 Fullager Diesel Engines to supply sufficient power for the final plant, but a favourable offer from Mysore for power transmitted from Sivasamudram Hydro-Electrical Station was accepted, and the necessary transmission lines are now being erected. The explosive to be used for rock blasting is liquid oxygen. A plant for the manufacture of the liquid oxygen has already been installed at Metur by the Lightfoot Refrigeration Company Limited.

Canal System (Total cost 228 lakhs). There will be 2 main canals. The Grand Anicut Canal, taking off from the Cauvery at Grand Anicut, will irrigate 2,58,000 acres. The other, known as the Vadavar Extension Canal from the Vennar, will irrigate 43,000 acres.

The total length of both the main canals is about 100 miles. The length of the distributaries is about 300 miles.

Two dragline excavators supplied by Messrs. Ruston & Hornsby Ltd., at a cost of 6½ lakhs, have been working since January, 1928, excavating the Grand Anicut Main Canal. 109,000,000 cft. of earthwork has been reserved for the machines. The machines have been working quite satisfactorily and at lower rates than is possible by manual labour.

Revenue.—The revenue derived from the existing irrigation in Tangore District is 60 lakhs. The extra gross revenue expected under the project is 59·12 lakhs (when the full development takes place), making a total of about 120 lakhs.

Work at the dam site and in the area to be irrigated is in full swing at present.

At headworks excavation of dam foundations is progressing rapidly, concreting has started, and foundations for the final crusher plant and concreting machines are in progress. In the canal area, excavation of the main canals and distributaries with connected masonry works is in progress.

Important items of machinery and plant already installed.

Crushing Plant.

Two Edgar Allen Crushers driven by two 60 B.H.P. Ruston Hornsby Oil Engines. Output 20 tons per hour each.

Concreting Plant.

3 Victoria Mixers—Capacity 30 cft.
3 Rex Mixers— „ 21 cft.
4 Jaeger Mixers— „ ¼ c.yd.
Concreting Tower 210 feet high, purchased from Tata's.

In Power House.

Two 165 B.H.P. Mirrless Bickerton Diesel Engines with Metropolitan Vickers alternators.
Five Ingersoll-Rand Air Compressors.

Workshops.

Usual equipment with a foundry, and also a Leyner Sharpener Installation.

General.

About 26 miles of 24 lb. track has been laid, and 580 1 c.yd. trucks and 98 2 c.yd. trucks of various makes are working, also 18 locos. The final requirements of track and rolling stock are approximately 1,200 trucks, 20 locos and 50 miles of track. A broad gauge connection is being made to the S.I.R. via Mecheri to Salem.

Machinery and plant ordered but not yet supplied.

Hadfield Crusher Installation, consisting of three 52 in. by 48 in. jaw breakers with their batteries of subsidiary crushers. Output 120 tons of crushed stone each per hour.

2-Stoother and Pitt Concreting Towers. Each machine is capable of an output of about 1,500 tons of concrete per day of 10 hours. Several motors, pumps, etc., etc., have been ordered.

Bengal. The Damodar Project.—The Secretary to the Government of Bengal in the Public Works Department (Irrigation) has very courteously given me the following notes in the course of a demi-official letter:—

The Damodar Canal was commenced in 1926-27, and during that year we made preliminary arrangements for starting work including a broad gauge siding, 5 miles long, from Panaghar Station on the East Indian Railway, which the railway have since laid and opened last November. Last financial year, 1927-28, we commenced work on the weir across the Damodar, which continues this year, and we are at present working on the undersluices and head regulator. Contracts for the gates for the undersluices and head regulator have been

placed with Messrs. Ransomes & Rapier through the Chief Controller of Stores, and we have recently placed an order for two steam driven Ruston's dragline excavators, one with a jib of 100 feet to work with a 3 cubic yard bucket, extensible to 115 feet with a 2½ cubic yard bucket, and another with a 60 feet jib with a 2½ cubic yard bucket. These machines will be ready for work, I hope, next November. In regard to other plant we have already obtained most of it, which comprises small units: a portion of the two feet light track has been delivered with a portion of the 1 cubic yard wagons. Petrol locos are under order, the rest of the light railway plant will be ordered shortly. I have also recently placed an order for three one yard concrete mixers. Almost all our plant has been ordered through the Chief Controller of Stores, and has been or is being supplied entirely by British firms, and the value aggregates something more than Rs.6 lakhs. We have also entered into a contract with Messrs. Martin & Company for the construction of about 14 miles of the Main Canal, including all works such as falls and bridges, and next cold weather I hope to place further contracts for some of the branch canals.

The total estimated cost of the canal is Rs.78 lakhs, and about 2,00,000 acres of paddy will be irrigated. We hope to be sufficiently advanced with the work by 1931 to open this canal for partial irrigation. There is one other small canal under construction which will cost about Rs.5 lakhs in the Birbhoom District, and will irrigate 10,000 acres of paddy, but we require very little plant for it.

Last year certain special lock-gates for locks 15 to 20 feet wide were obtained for the side channels issuing from the Madaripur Bhil Route, which we are placing under proper control. These gates are more or less on the Stoney gate principle, and will be raised so that boats can pass under them. This contract was placed with Messrs. Ransomes & Rapier and was a little under Rs.1 lakh in value.

2. HARBOUR WORKS.

Calcutta Port Extensions. Progress of the Scheme.—

I am indebted to Mr. S. C. Stuart-Williams, Chairman of the Calcutta Port Commissioners, for the following progress report on the developments during the year ended March 31st, 1928 :—

In my report for last year, I referred briefly to the progress made up to the end of March, 1927, on the Calcutta Port Commissioners' extension schemes, with special reference to (a) the execution of the King George's Dock scheme in its first phase, together with a number of connected improvements and extensions, and (b) the construction of an additional 80 ft. lock entrance to the old Kidderpore Dock system.

(a) As regards the King George's Dock, the progress made during the year 1927-28 is on the whole satisfactory. The rainfall during the monsoon of 1927 was exceptionally light, and good progress was made with low level work at all points. The floor of the lock entrance had been completed by March, 1928, except for a small area at the Wet Dock, or Basin end, which remained to be finished off as an "apron." The apron work at the ends of each entrance has to be undertaken under conditions less favourable than those obtaining throughout the floors generally, on account of the proximity of water at a high level, in the river or in the Basin. The river apron of the lock entrance was successfully completed late in 1927, and those at the basin ends of the lock and the graving docks were taken in hand soon after. Water was encountered under conditions which threatened the safety of the temporary protective earthen dam, but the measures taken have so far afforded security and rendered possible the progress desired. Completion in this area is hoped for by June, 1928, but the work on the apron at the river end of the graving docks, where, however, conditions promise to be more favourable, is less advanced.

No considerable area of floor in the graving docks has yet been quite completed, but all the low level work has been carried out. Good progress was made on the blue brick lining of the lock entrance, the walls of which were completed to a mean level of a few feet below that of the copings, and a substantial start was made on the similar work to be done in the two graving docks. The culverts for the control of water in the lock entrance were finished, as also the greater part of those in connection with the main pumping installation, which will serve both for drying out the graving docks and for impounding river water in the basin.

The most important dates marking progress on the scheme are those by which the various caissons, which are to serve the purpose of dock gates, are placed in position. Before dredging craft can proceed into the basin to handle the " spoil " which is beyond the reach of the land excavators of the dragline type, which have been working there since 1925, it is intended to have two caissons in position across the lock entrance and one across the graving docks. The caissons could not be built in the positions in which they will function as gates nor, in view of their weighing as much as 1,000 tons, can they be hauled about in the dry. Partial flooding is necessary in order to manoeuvre them, and water was let into the lock entrance for the first time early in March 1928, in order to place the outer caisson in position. It is hoped to get the inner caisson into place in May, and, after an interval of a few weeks, to float a third caisson into the groove at the basin end of the graving docks. If the results of tests are satisfactory the passage of craft, between the river and the basin, will then shortly be possible.

A considerable quantity of dredging has to be done, both on the river bank and in the basin, but the Commissioners' plant should be able, provided it is possible to adhere to the flooding programme, to clear the area required for the use of three of the five berths under construction, by about the end of 1928.

The structural work on the extensive transit sheds at the berths is nearly completed and the electric quay cranes are now being erected. Two-ton lifts are being provided for handling cargo passing to and from the first and second floors, and these will shortly be installed. The road and railway facilities for the berths are well in hand.

The earth in front of the quay walls was removed in 1927, giving access for the water in the basin up to the face of the quays. The soil of Calcutta is of a treacherous nature ; but it is satisfactory to record that no movement of the walls occurred when the support was withdrawn, such as took place when the Kidderpore Docks were under construction, an occurrence which all but led to a disaster.

The work in connection with the distribution of power around the dock area is just commencing, equipment having arrived, hydraulic power is being employed for the equipment of the entrances, and for all capstans ; all other power will be electric.

The work of reclaiming the low-lying land on the Commissioners' extensive dock estate proceeded along with that of excavation in the basin area by means of draglines. Large areas are now available for future port purposes, such as subsidiary railway marshalling yards, as also numerous plots for industrial and other requirements, and negotiations are now proceeding with several applicants for accommodation. Consideration has been given to an ad interim stage of railway development which it may be desirable to bring about, should it appear possible to defer the heavy expense of the final scheme to a relatively distant date. The completion of the Bally Bridge is likely to have a bearing on this question.

A start was made on the impounding scheme which is destined eventually to supply water for both the Kidderpore and King George's Docks, and which will ultimately lead to the abolition of the Boat Canal.

(b) Kidderpore Dock—new 80 ft. entrance.

Work has progressed satisfactorily during the year on the execution of this particularly difficult work, which will give a new and larger lock entrance to the old Kidderpore dock system. The original estimates were based on the assumption that the floor of the lock could be carried out in the dry and that normal foundations would be possible at the levels fixed. In process of execution, however, it soon became apparent that the floor could only be constructed by means of monoliths, and actually wells of a specially large size, namely 74 ft. by 45½ ft. have been utilised. These changes in the method of execution accompanied by the necessity for the extensive use of divers, working in some cases in as much as 80 ft. of water, together with incidental difficulties attributable to the peculiar nature of the site and the unusual hydro-static pressure, will entail a total expenditure of about Rs.94 lakhs as against the original estimate of Rs.64 lakhs. Completion is hoped for about the end of the financial year 1929-30.

Bombay Port Trust Capital Works.—In pursuance of the declared policy of the Board to avoid further commitments on loan account until trade conditions are more settled, capital expenditure during the year was restricted to essential works and kept down to a minimum. It aggregated Rs.11·86 lakhs, which is the lowest since 1902-03. The principal works in which expenditure was incurred during the year were the deepening of the Alexandra Dock entrance channel and the mail steamer berth (Rs.5·57 lakhs), new dredging plant (Rs. 1·51 lakhs), and removal of a portion of the Alexandra Dock dam (Rs.1·13 lakhs). No new loan was raised by the trustees during the year, the expenditure being financed from loan balances in hand.

Karachi Port Improvement Scheme.—Mr. J. B. S. Thubron, C.I.E., Chairman of the Karachi Port Trust, has contributed the following note on the position :—

Note on the progress of the West Wharf Works and the future requirements, etc.

Good progress has been made with the construction of the six deep water berths on the west side of the harbour—the quay wall for three berths totalling 1,650 feet in length having been completed. A new bucket dredger recently purchased is at work dredging in front of the berths and has finished one which is now open. The depth alongside the first three berths will be 32 feet below low water ordinary spring tides and alongside the next three 34 feet. Five 2-ton electric cranes for No. 1 berth are erected and a further five for No. 2 berth are in course of erection. At the present rate of progress the six berths should be opened in 1931. No more machinery or construction plant is likely to be required for construction work.

Five more electric cranes will be ordered this year followed by ten in 1929 and five in 1930.

The following plant will also shortly be ordered :—Quadruple grab hopper self-propelling dredger of 1,000 tons hopper capacity ; one 5-ton steam crane ; railway material for new West Wharf Yard ; and electric cable and transformer for yard lighting.

British manufacturers when tendering for requirements should place themselves in touch with the Board's Consulting Engineers, Messrs. Rendel, Palmer & Tritton, 12/14, Dartmouth Street, Westminster, London, S.W.1.

Harbour Developments in the Madras Presidency.—
Mr. R. C. Bristow, Harbour Engineer to the Madras Government, has very kindly supplied the following note on the harbour schemes at Cochin and Tuticorin :—

Note on the present position of the harbour works at Cochin and Tuticorin.

COCHIN.—Considerable progress has been made during the past year in both the inside and outside dredging work. Nearly two million cubic yards of material consisting of heavy sand, clay, and a large proportion of oyster shells were dredged during the five months comprising the season's work inside, viz., May to September inclusive, and pumped into the Venduruthy reclamation. A little over 28 acres were reclaimed to the finished level and a further area of 220 acres was filled up to above low-water level.

It is seldom possible to obtain material for reclamation which after pumping does not require a very considerable time—sometimes several months—before it settles down and becomes capable of supporting any appreciable weight. It is fortunate, therefore, that at Cochin the greater portion of the spoil, although more difficult to dredge, is so dense that, once above water-level, it is possible to walk on the material immediately after it is pumped ashore. The usual difficulties and precautions necessary in erecting buildings, etc., on reclaimed ground will consequently be minimised considerably and prolonged delays in developing the area, through waiting for the ground to consolidate, will not arise.

While inside dredging was in progress, arrangements were being made at home by the Harbour-Engineer-in-Chief for the manufacture and supply of new ball-joints for the pipeline to replace the joints originally supplied, the latter having been found unsuitable for working in the swell encountered on the outer bar. A committee of experts was formed to consider the question of the most suitable type of joint, and on this being settled, orders were immediately placed with the manufacturers.

A sufficient number of joints were received to enable outside dredging on the bar to commence on the 8th December. Besides the new joints themselves, an entirely new system of springs, and check and preventer wires between the pontoons had been devised to take up the shocks to which the pipeline was subjected. The new system worked admirably, and it was found possible to keep on dredging in all but the roughest of water when the swell exceeded 4 feet in height. This happened on one occasion, when it became necessary to bring both dredger and pipeline inside for a few days till the weather had calmed down. The new joints also kept perfectly watertight. The most difficult part of the dredging, viz., the cut through the ridge on the bar about 4,000 feet long, was tackled first. After a little experience no difficulty was found in keeping up a steady output, and apart from a few minor delays the progress was exceptionally good. The material consisted of heavy sand, a large proportion of which was ilmenite, quite black in colour. The bar was cut through by the end of January, and it was then expected that, with the diminished height in the face of the cut as the depth of water ahead increased, the dredging would be considerably easier. The sand, however, increased in density, and settled in the pipe, and it was therefore necessary frequently to stop dredging and pump sea water only to clear the pipes and prevent choking. The consequent loss of time in actual dredging, of course, reduced the output per pumping hour, a contributory factor being the considerable wear which had taken place in the pump itself and reduced its efficiency. The cut on the inside of the bar was completed by the end of February, by which time the pump was in a very bad state, and it is doubtful whether it would have been possible to continue dredging much longer in similar material. The channel, about 5,200 feet long on the seaward side of the bar, still remaining to be dredged, however, consisted only of mud, and it was considered that its effect in increasing the wear on the pump would be inappreciable—an opinion which was subsequently confirmed.

The dredging of the outermost channel was commenced on the 5th, but, as previously mentioned, there was a slight set-back owing to bad weather. Dredging, however, recommenced on the 12th and between that date and the 30th March, when dredging stopped and the through channel was completed, a total quantity of 883,450 cubic yards were dredged—a world record! The total quantity dredged during the season's work outside amounted to 2,261,960 cubic yards. There is now, therefore, a through approach channel 400 feet wide at bottom and 32 feet in depth leading from the open sea across the bar to the inner harbour, which it is possible for ships of the requisite draft to navigate, and although the stage has not yet arrived when it is possible to guarantee the safety of the channel to all ships using the port, there should be no risk for those drawing up to 20 feet to navigate it and it is expected that some will shortly venture to do so.

TUTICORIN. The main feature of the past year was the reference of the whole scheme to a committee of expert engineers at home, before whom the Harbour Engineer-in-Chief was deputed to give evidence. Owing to the local apprehension as to the financial effect of the proposals for the purchase of fresh plant, it was not considered desirable to push on the work very rigorously pending the receipt of the Committee's report. Work was therefore carried on as well as possible with the existing plant, and in spite of the disabilities under which it was executed a total quantity of 118,957 cubic yards of rock and coral were dredged between 1st April and 18th November, 1927, when it was finally decided by Government to suspend the capital works. During the above period about 6 acres of reclamation to the level of 8.43 feet above low water were formed from the dredged spoil.

The Expert Committee confirmed the estimates and otherwise supported the proposals for carrying on the work as put forward by the Harbour Engineer-in-Chief, but considered that a harbour fronting the town of Tuticorin instead of one at Hare Island might be preferable and recommended that such a scheme should be investigated. Their recommendations were duly put before the local authorities who, however, in reviewing the factors which influenced the Expert Committee in their decision on the location, considered that similar ends might be served with the harbour at Hare Island, and accordingly recommended the investigation of a scheme for a complete harbour at Hare Island. This is now being carried out.

The Port of Rangoon.—Mr. J. A. Cherry, C.I.E., Chairman of the Rangoon Port Trust, has very courteously supplied the following note on the work carried out on Port Extension Schemes in 1927-28 :—

The port has completed another satisfactory year, and the traffic figures constitute a record. During last year, 1927-28, 1,526 steamers with an aggregate net tonnage of 3,880,057 entered the port, an increase of 78 in number and 66,493 tons in tonnage compared with the figures of 1926-27.

The sea-borne traffic was 5,558,831 tons, of which 1,968,688 were imports, 3,375,075 tons exports, and 15,068 tons transshipment; a total increase of 564,507 tons compared with last year. The volume of sea-borne traffic over the Commissioners' premises totalled 2,027,657 tons of goods during the year; an increase of 309,722 tons compared with last year.

River-borne traffic passing over the Commissioners' premises was 884,893 tons against 840,262 during 1926-27; an increase of 44,631 tons.

The progress during 1927-28 in connection with the development schemes of port facilities is as follows :—

Wharves extension and reconstruction for sea-going vessels traffic.—Detailed plans and estimates amounting to Rs.47,75,000 for the joining up of Sule Pagoda and Latter Street wharves have been prepared by the Commissioners' Consulting Engineers and approved by the Commissioners. It is anticipated

that the work, comprising the construction and equipment of a new wharf with a two-storied transit shed and the extension of transit shed No. 1 at the east end of Latter Street wharf, will commence before the end of the present year. Tenders in the matter are now being invited by the Commissioners' Consulting Engineers, Messrs. Sir Alexander Gibb & Partners, in London, from selected contractors.

Lanmadaw foreshore development for inland vessels, local and railway traffic.—Transfer of the Irrawaddy Flotilla Company's Mandalay steamers traffic to Botatoung, and of the Import Salt traffic to Pazundaung has resulted in the vacation of four transit sheds and fifteen godowns. Alterations have been carried out to a number of these godowns, and the whole have been allotted for the accommodation of the rice traffic transferred from Crisp Street. In addition eleven steel frame godowns, area 33,000 sq. ft., served by rail and road, were completed and have been occupied from 1st January, 1928. In the place of the Mandalay steamer pontoons transferred to Botatoung, three cargo boat jetties and three pontoons have been erected for the rice traffic and to provide additional facilities for inland creek steamers. Estimates amounting to Rs.6,21,394 have been sanctioned for these works.

The Commissioners contemplate, at a future date, to create a new and advanced line of foreshore at Lanmadaw from Latter Street wharf westwards to Ywathit Creek, reclaiming some 10½ acres of land with a river frontage of 5,220 feet. It is proposed to erect 17 pontoon jetties, 16 cargo boat jetties, and construct godowns, roads and railway sidings calculated to afford the greatest possible facility for river, road and rail traffic and to provide the maximum godown storage accommodation for goods.

Botatoung development for the Irrawaddy Flotilla Company's Mandalay steamer traffic.—The new depot at Botatoung for the Irrawaddy Flotilla Company's Mandalay steamers was opened to traffic from the 1st December, 1927. Three double pontoons each 200 feet long have been transferred from Lanmadaw, and some 96,299 sq. ft. of transit shed and godown accommodation have been completed. Provision has been made for 60,000 sq. ft. of additional godowns immediately to be erected at this depot, and sanction has been accorded to the erection of eight godowns, with a floor area of 40,243 sq. ft. at a cost of Rs.2,25,676. Estimate for the remaining four godowns will be submitted for sanction at an early date. Although this depot has only been opened to traffic for 5 months it has already been realised that extension is imperative, and a proposal to transfer the Commissioners' mooring plant, coal, etc., to a site at King's Bank on the right bank of the Rangoon river has been generally approved. When the transfer has been effected it will provide additional river frontage and admit of extensions of the Mandalay and Coastal depots.

The construction of a new Import Salt Depot at Pazundaung.—The construction of this depot is nearing completion in accordance with sanctioned proposals, and transfer of the salt traffic from Lanmadaw commenced in September, 1927. The new depot consists of 36 godowns, including 4 under construction, with a total area of 151560 sq. ft. and a storage capacity of 45,600 tons, and has been constructed on Commissioners' land at Upper Pazundaung. This land, some 9 acres in extent, was purchased in 1909 for Rs.4 lakhs, and its reclamation and equipment as a salt depot has been carried out at a cost up to date of Rs.12,59,600.

Additional moorings for sea-going vessels.—The sanctioned scheme provides for 2 new blocks of six berth fixed moorings. The laying of the first block which comprised two additional berths eastwards of the present block of the Botatoung Fixed Moorings, and four berths in the centre of the harbour has been completed. The swinging moorings displaced have been relaid in other parts of the river convenient for shipping. The laying of the second block of six berths was originally fixed for 1932-33, but the work will be taken in hand

before that date should it be found that the present mooring accommodation is inadequate.

Development at Dawbon.—In their scheme for the development of Dawbon, the Commissioners provided for the protection of the foreshore of their land on the right bank of the Pegu river for reclamation and for the building of a wharf with roads and railway sidings. Proposals are now under consideration for carrying out certain of these works, and a survey of the Pegu river above port limits at an estimated cost of Rs.12,000 has been completed.

In the first place it is proposed to erect a wharf with facilities for the landing of coal for the Durma Railways, some 250,000 tons per annum, and for coal imported into Rangoon for raling up-country, some 60,000 per annum. Provision will also be made for the storage and shipment of mineral ores.

Passenger Depot, Phayre Street.—A layout and design prepared by Mr. T. O. Foster, F.R.I.B.A., Architect, for a passenger station at the end of Phayre Street for the local and sea-going passenger traffic necessitated by the extension of the wharves has been approved, and work will be taken in hand during the present year.

Military Commissariat Depot at Godwin Road.—Detailed plans and estimates amounting to Rs.1,40,000 for buildings, etc., of the new Commissariat depot have been approved and construction will be commenced during the present financial year. Plans have been prepared in consultation with the Military authorities, and provide for officers and storage godowns with rail, road and river connections. Tenders for the construction of the buildings are being invited.

King's Bank Reclamation Works.—This scheme, which was commenced in January, 1924, and completed in December, 1927, consists of a wall 6,103 feet long with a maximum height of 32 feet. The cost, including land acquisitions, amounts to Rs.38,52,162. The works have had the effect of contracting the width of the Rangoon river across the Hastings shoal, with the result that the best tracks in the Monkey Point channel have deepened to 20 feet (least water) where previously the ruling depth was only 15 feet; the height and volume of the Hastings shoal have been reduced, and the old unstable King's Bank channel has been closed and a new channel has formed following the line of the wall. Present indications point to this channel joining up with that along the right bank of the river from opposite King's Bank Fort to D'Silva Point, and thereby forming a subsidiary entrance to the harbour.

Some time must necessarily elapse before the river adjusts itself to the new conditions, but the results so far obtained bear out the anticipated improvement in the approaches to the harbour, and there can be no doubt that further improvement will shortly take place.

Commissioners' new Head Offices.—Construction is proceeding rapidly, and it is expected the new building will be occupied in August, 1928, when all Heads of Departments and their staffs will be under one roof for the first time since 1st March, 1910.

Railway facilities.—The improvement of the present facilities for the transport and handling of rail-borne traffic to and from the Port Commissioners' premises has been under consideration, and to provide the necessary extra accommodation it is proposed to transfer some four acres of land at Lanmadaw to the Burma Railways Company in exchange for about 1 acre of land at Latter Street. This latter area will be merged in the Latter Street wharf area, giving extra accommodation for storage of goods in transit.

The provision of a new dredger and floating crane is still under consideration.

The Vizagapatam Harbour.—The Administrative Officer of the Vizagapatam Harbour Construction has supplied the sub-joined progress report for the year 1927-28 :—

Monolith Quay Wall.—In the early part of the year the non-delivery of two loco cranes ordered from England hampered progress with sinking of monoliths. Rapid progress was made with construction of monoliths, and after the arrival of the cranes in August a satisfactory rate of sinking was obtained. 1,709 feet out of a total sinking of 1,730 feet has been completed. 22 of the monoliths have been sunk to the full depth of 45 feet and the super-structure built to a full height on monolith No. 3.

The foundations for the two large transit sheds and one store shed have been completed, and the foundations of the second storage shed were well in hand at the end of the financial year.

Dry Dock.—The construction of a dry dock 321 ft. by 60 ft. 6 in., with 8 ft. depth of water over the sill at low water was started during the year, and work is being pushed forward to enable the dredger "Vizagapatam" to use this dock for her yearly docking.

Electric Power Station.—Orders have been placed in England for the plant and equipment required for this station, and delivery will be made at Vizagapatam during 1928-29.

Oil Depot.—At the instance of the Oil Companies concerned a slightly revised layout has been adopted for this depot which permits of easy and comparatively cheap extension of the berthage in the future. In the first instance one berth will be provided for the oil tankers.

Dredging.—The repairs to the dredger "Vizagapatam" necessitated owing to the accident which occurred to this vessel last year, were successfully carried out in Calcutta, and the vessel after dredging her way through the bar was brought into the creek at Vizagapatam on 23rd January, 1928. A start was made on the Harbour Dredging programme on 31st January, and up to the end of the financial year a total quantity of 800,000 cubic feet has been excavated.

Dipper Dredger "Waltair" was also employed most of the year in preparing a channel for the entry of the "Vizagapatam" inside the bar.

Bucket Dredger "Manar" was hired from the Madras Government for the same purpose and worked in the entrance channel from 11th October, 1927, to 26th January, 1928, when she was returned.

Grab Dredger "Mudlark" was employed removing material from the old railway bund and also in sinking the well foundations of the ferry landing places.

Manganese Wharf.—The bunds and pitching round the Manganese Wharf area are nearing completion, and the reclamation of this area will be undertaken by the suction dredger in due course.

Railway facilities.—The general layout of these facilities has been approved and detailed plans and premises are under preparation. These facilities include a marshalling yard and exchange sidings for the docks, and a railway connection to the oil depots on the south side of the harbour. A very large catch water canal is also to be constructed to intercept all the water draining into the dock area and discharge it into the Scour Basin.

Lighthouse.—Mr. D. A. Stevenson visited the port during the year and on his recommendation it has been decided that in view of the rapid advance which is being made in wireless especially in regard to direction finding it would be premature to undertake any scheme for replacing the existing lighthouse at Vizagapatam.

Anti-Malarial Measures.—Very comprehensive anti-malarial measures have been adopted and have been very successful in reducing the number of mosquitoes in and near the area. The work involved consists mainly of clearing jungle, filling up disused wells, and grading the nullahs in the area. These works, together with oil spraying in the area within one mile of the harbour, have resulted in practically exterminating the mosquitoes.

A special anti-malaria committee is being formed to co-ordinate the anti-malarial work of the various authorities in and around Vizagapatam.

Staff.—Col. H. Cartwright-Reid, who has been the Engineer-in-Chief of the harbour since 1922, retired on 31st March, 1928, and handed over charge of the work to Mr. O. B. Rattenbury, Deputy Engineer-in-Chief, who will act as Engineer-in-Chief for the time being.

Finance.—The total recorded expenditure up to the end of the financial year 1927-28 amounted to Rs.1,08,08,111, while the actual expenditure during the year amounted to Rs.29,05,611.

Port of Chittagong.—Commander C. R. Bluett, R.I.M., Port Officer and Secretary to the Port Commissioners, Chittagong, in forwarding the following two brief notes, states that while it has not been possible to make any actual progress on the Harbour Works, the preliminaries are well up to date and the dredger "Patunga" is now (June, 1928), actually at work dredging the bars, and it is hoped to begin revetment work on the river bank at Guta Point after the monsoon. Extensions of the Port Workshops are also in progress and schemes for the housing of certain Port Commissioners' employees are materialising.

New dredger "Patunga."—The new 2,000 ton suction hopper dredger "Patunga" under construction on the Clyde was completed and, after running trials, left Renfrew for Chittagong in March, 1928.

River Improvement Works.—A report on training works for the estuary of the Kornafuli river was received from Messrs. Rendel, Palmer & Tritton, Consulting Engineers, and detail survey work in connection with the schemes embodied therein was taken in hand for the preparation of estimates.

3. HYDRO-ELECTRIC SCHEMES.

The Punjab Hydro-Electric Scheme (known as the Uhl River Project).—Lt.-Col. B. C. Battye, R.E., has very kindly supplied the following brief note on the present position of this project:—

Progress during the last year has consisted mainly in the completion of the construction equipment, including the temporary power plant at Dhelu, the completion of the haulageways and the installation of tunnel construction plant, compressor stations, blowers and excavating machinery. Tunnel driving on the south side of the hill started in March, 1928. The haulageways serving the Uhl Valley are expected to be complete and ready for the transportation of tunnel construction plant by the end of June. The construction of the second subsidiary power project in the Uhl valley is progressing, and should be completed by about the end of July. Contracts and orders for construction plant have, therefore, now been practically completed; the bulk of the work remaining is connected with the specifying and calling for tenders for the pipeline, generating plant, switchgear, transformers, transmission line towers and substations. The specifications for these are well in hand, and it is anticipated that tenders will be called for the bulk of this plant and machinery during the coming autumn. For example specifications for upwards of 400 miles of transmission lines will probably be completed in the course of the next two months, the same applies to the Penstock pipes and generating plant.

Tenders for the substations and power house switchgear will probably follow a few months later.

Hydro-Electric Developments in the Madras Presidency.—

In the course of a note received from Major H. G. Howard, Chief Engineer for Hydro-electric Development to the Madras Government, he comments as follows on the projected schemes in southern India :—

The Madras Government have, for some time, been carrying out renaissance surveys of all possible water power resources of the Presidency, and some very useful information is now on record. Preliminary surveys and estimates of certain of these power developments—Pykara, Pinjikave, and Papanasam have been carried out and the reports published.

The Government considered these reports sufficiently favourable to warrant a more complete investigation.

In September of last year an experienced hydro-electric Engineer was engaged and a Department of Hydro-Electric Development formed. After a brief survey of all the possible power developments, studies were concentrated on Pykara and Papanasam. In November the Department issued an Introductory Report on the Pykara project.

This report advocated certain modifications in the original design, and showed that the estimated revenue from the complete installation would bring it well within the Public Works Department's interpretation of a productive work. Detailed designs and estimates of this project are now in course of preparation.

Two schemes are proposed. One includes the electrification of three sections of the South Indian Railway, and the transmission and distribution of power to the Nilgiris, Coimbatore, Tiruppur, Erode, Pollachi, Anamalais, Trichinopoly, Dindigul, Madura and Virudhunagar.

The smaller scheme only includes the transmission and distribution of power to the Nilgiris and Coimbatore District, assuming that the South Indian Railway will decide not to electrify.

The development of electric power in Southern India on a reasonably large scale depends now on the electrification programme of the South Indian Railway. The local authorities are generally in favour of electrification, but the decision rests on the recommendations which will be made by the Consulting Engineers appointed by the Railway Board.

Without the railway load much of the original transmission system has to be left out in order to reduce the capital investment and render the scheme commercially feasible.

The Railway Board has sanctioned the electrification of a section of the Madras Suburban Lines of the South Indian Railway, and preparations are now being made to start work.

If the construction of the Pykara project is sanctioned it is not expected to attempt to transmit power to Madras at the outset, but wait until the demand has increased.

All coal and oil needed for fuel has now to be imported, and it is rather surprising that the development of the water power resources of the Presidency should have been so long delayed. It is therefore hoped that during 1928 the Madras Government will decide to sanction the construction of at least one of the schemes now being studied.

British Electrical and Associated Manufacturers are, in general, aware of these schemes, and many of them have been furnished, by request, with all the technical details.

The general technical details of the Pykara project as now proposed may, however, be repeated as follows :—

Static Head	...	...	3,090 feet.
Penstocks—			
Number	...	...	2.
Diameter	...	...	37 in. to 27 in.
Length	...	...	9,600 feet each.

Power House—

Steel Building.

3 7,500 KW. 11,000 volt generators · 85 P.F. and impulse wheels.

3 Transformers 11,000/110,00 volts, 8,800 KVA. each, 3 phase outdoor shape.

Transmission Lines.

Towers	...	...	Steel Structures.
Conductor	...	...	Aluminium Cable Steel reinforced of various sizes.
Insulators	...	...	Suspension.
Voltage	...	...	110,000 volts and 66,000 volts.
Length	...	...	About 190 miles 110 KV. and 150 miles 66 KV.

Various substations are contemplated of the outdoor type needing the following three phase transformers with the necessary switchgear:—

3—3,000 K.VA	...	110/11 KV.
5—4,000 "	...	110/66 "
3—1,000 "	...	66/11 "
5— 500 "	...	66/11 "

Ceylon. Electrical Developments during 1927-28.—The Principal Collector of Customs, Colombo, who acts as Imperial Trade Correspondent, has forwarded the following note on electrical developments during the past year:—

" In 1927 Government agreed with the Colombo Electric Tramways and Lighting Co., Ltd., to purchase their electricity supply undertaking, mains system and Power Station, for the sum of £245,000 as from 1st January, 1928, and plans were accordingly made to incorporate the Colombo Electric Tramways and Lighting Company's system with the new distribution system designed by Government for electricity supply in Colombo, and to interlink the Company's Power Station with the new Government Power Station at Kolonnawa.

The Company's system taken over by Government on the 1st January, 1928, comprises about 100 miles of feeders and distributors at 2,200 volts, A.C., 60 cycles, single phase, transformed down to supply groups of consumers at 100 volts; also a D.C. 3 wire, 440/220 volt system for the "Fort" or business area, and a 550 volt D.C. supply to the Tramways and sundry small power consumers.

The power station taken over by the Government from the Colombo Electric Tramways and Lighting Company is equipped with 8 Diesel engines of various makes, and 3 Belliss & Morcom steam driven sets, the Station having a total output capacity of about 2,700 KW.

The distribution system supplied from the new Kolonnawa Station and now under construction provides for two 3 phase, 11,000 volt ring mains, one for the northern and one for the southern area, each ring designed to carry 12 sub-stations supplying low tension, 4 wire, 3 phase networks at 400/230 volts, 50 cycles. The D.C. system in the "Fort" area now supplied from the Station purchased from the Colombo Electric Tramways and Lighting Co., is to be supplied from the new 11,000 volt, 3 phase system, through rotary converters, in a new sub-station, and part of the existing 2,200 volt, single phase load on the old station is to be taken on the 3 phase, 50 cycle supply from Kolonnawa through motor generator plant to relieve the old Station.

The Kolonnawa Station now under construction includes two 3,000 KW., 3 phase, 11,000 volt turbo-alternators and two Babcock and Wilcox boilers, the contractors for the plant being the Metropolitan Vickers Company, and it is expected that one 3,000 KW. turbo-alternator will be in commission before the end of this year.

Owing to the fully loaded state of the existing Diesel and steam driven station, no new consumers have been connected to the mains for many months past, and as soon as supply becomes available from the new Kolonnawa Station it is expected that there will be extensive developments of electricity supply, both for domestic purposes and for power, and there should be a good demand in Colombo for electrical material.

All new consumers on the 3 phase, 4 wire, 50 cycle networks will be supplied at 230 volts, single phase, for lighting, fans and domestic appliances, and at 400 volts, 3 phase, for power. It is proposed to transfer eventually all the existing consumers now on 100 volts, 60 cycles, A.C. to the 230 volts, 50 cycle circuits.

The electricity supply of Colombo is now entirely under control of the Ceylon Government, and all information regarding supply conditions can be obtained from the Director of Electrical Undertakings, but it is not intended that Government should carry out any extensive wiring schemes for consumers' premises, all such work being done by local contractors. Government will, however, encourage the demand for electricity in every possible way, and will offer easy terms where necessary for hire purchase of motors and other current consuming appliances if contractors are not able to meet consumers' requirements.

Work on the hydro-electric scheme has been stopped pending further investigations.

Work in connection with electric lighting installations in small towns throughout the Island continued during the year. The standard form of installation adopted for small towns is 400/230 volts, 3 phase, 50 cycles, oil engine sets. The installations are usually carried out by private firms under the supervision of the Government Electrical Department on specifications prepared by the Department."

It will be noted that the hydro-electric scheme is in abeyance until Government decide on the further steps which should be taken. In the meantime, the services of Mr. J. S. Pitkeathly, C.I.E., Chief Controller of Stores with the Government of India, who has had considerable technical and administrative experience of electrical schemes in the East, have been loaned to the Government of Ceylon for nine months. Mr. Pitkeathly will thoroughly investigate the practicability of the hydro-scheme and will report on the measures which should be taken to deal with the present unsatisfactory position.

4. OTHER WORKS.

The Calcutta Chord Railway Project and the Bally Bridge.—The following note, dated 12th May, 1928, has been very kindly supplied by Mr. A. H. Johnstone, the Engineer-in-Chief:—

Calcutta Chord Railway. Length 8.30 miles.—The construction of this line, the primary object of which is to shorten the distance between the Ranigunge and Jherria Coal Fields and the Docks, has advanced considerably during the year. The work of major importance on it, the Bally Bridge, an undertaking estimated to cost about £700,000, is gradually growing into existence. At the present moment, about half the underground work consisting of about 800 lineal feet of sinking has been completed. One of the piers, all of which above bed are to be of brick, has been completed, and another is in progress of being built. The caissons on which the piers are founded vary in height according to the depth of water, the deepest, viz., No. 2, is 55 feet in height, and weighs 130 tons. They are all manufactured out of Indian steel and were partly erected at site and partly in Burn & Company's yard at Howrah, where they were launched and towed to site on a tide. After location, which is a very difficult operation necessitating the use of compressed air to reduce their draft, the space between the outer and inner sheets is filled with concrete after which the concrete steining is carried up by means of steel shuttering.

The dredging is being done with 100 cubic feet Bells Grabs worked by 15 ton electric cranes, two of which are of the Derrick pattern on steel pontoons and four of the overhead type running on a steel staging carried by two 1,000 ton flats braced 40 feet apart.

To obtain a suitable aggregate for the concrete used in the steining of the wells a Hadfield's "Heclon Gyrotory Crusher Size No. 6" has recently been installed in the nearest quarries, which are 200 miles away from the site of the bridge. This crusher, which is being driven by an old locomotive engine which was hauled up into the quarry and packed up off its wheels, gives an output of 40 tons an hour. The crushed stone falls direct from the crusher into broad gauge wagons and goes down to the site of the work in complete trains. On arrival at Bally the wagons are run out on to a timber jetty and by means of turntables fitted at each end are brought sideways on to the river. The stone is then shot down into barges through movable shoots fitted on the side of the jetty and taken out to the site of each pier by tugs.

Two direct coupled electrically driven Drysdale Vertical Sinking pumps capable of operating at any head up to 90 feet have recently been obtained, and are regularly used for "running" the wells, the method adopted for overcoming the skin friction.

A contract for the seven girders which weigh 2,500 tons each has just been placed with Messrs. Braithwaite & Company, who intend manufacturing them in their Clive Works at Garden Reach out of Indian steel as far as the section will admit, the balance to be of British steel.

In regard to erection of these girders, which is one of the biggest problems connected with the work, the intention is to put up a steel staging on screw piles between the first and second span (from the Calcutta side). Two openings of 60 feet will be left in the second staging into which the two 1,000 ton flats referred to above, will be brought. These flats will be fitted with a wooden superstructure, and will raise the main girders off the staging on a suitable tide. The flats, with about 2,000 tons of girders and superstructure, will then be pulled out clear of the staging and be breasted across the river to the required site where the whole will be hauled by winches into position and the girders allowed to drop down into their place on the pier on a falling tide.

One of the greatest troubles in connection with the work are the "bores" or tidal waves which come up the river regularly once a month and sometimes twice. They necessitate a complete stoppage of all work on the shallow or shoal side for from seven to ten days during each "bore" as all floating plant has to be removed to deep water moorings.

It is expected that the work will be completed and the line open to traffic before the end of 1930.

Bombay Back Bay Reclamation Scheme. The Present Position.—I am indebted to the Deputy Chief Engineer for the following brief note on the position of the Back Bay Project at the beginning of May, 1928 :—

The Back Bay Reclamation Scheme in its entirety contemplated the reclamation of about 1,150 acres from the sea in Back Bay on the west side of the city of Bombay. To do this reclamation, it was proposed to build a sea wall of the total length of about 21,600 feet, and to reclaim behind that sea wall by means of suction dredging from the bed of the harbour.

The area proposed to be reclaimed was divided into 8 sections of blocks. Much of the original scheme, however, is now in a state of suspension and all that it is at present proposed to do is to reclaim four out of the eight blocks, viz., Block Nos. 1 and 2, at the northern end, and 7 and 8 at the southern end, and to make a connecting road or marine drive between Blocks 2 and 7 along the existing foreshore. The areas of these four blocks which it is at present proposed to reclaim are :—

Block No. I	...	...	...	...	73 acres approximately.
Block No. II	...	...	...	...	78 " "
Block No. VII	...	...	...	...	135 " "
Block No. VIII	...	...	...	...	245 " "

giving a total of 531 acres out of the original contemplated area of about 1,150 acres.

Of these blocks, which it is now proposed to reclaim, Block No. 8 will be sold to the Government of India for military purposes, and the remaining blocks will be developed partly for ordinary commercial and residential buildings and partly for open spaces, etc.

As far as actual construction goes, the present position is that the sea-wall has been completed except for a gap of about 1,900 feet length in the middle, which will be left open until such time as the remaining area is taken in hand. The dredging into Block 8 and into Block 7 has been completed, and a topping of earth which is being brought in by train is being deposited on the former block. The dredging into Block 1, which has been done not from the Harbour but from Back Bay has been completed, and when this has dried out, a topping of earth will be deposited on this block also.

Dredging operations have now been suspended for the monsoon, but will be resumed into Block No. 2 in November, 1928, after the monsoon. The main storm water drains required for the Blocks 1, 2, 7 and 8 have been completed, but the auxiliary storm water drains, the sewers, the roads and the road-lighting in these blocks have not yet been taken in hand. They will be commenced as soon as the actual reclamation by dredging and topping of earth over the dredged material in these blocks has been finished. It is proposed to take in hand the road in continuation of Churchgate Street this year, as some part of the reclamation at the south end of Block 1 has been completed by dry filling brought by motor lorries.

The Rangoon Water Supply Project.—I am indebted to the Secretary to the Government of Burma in the Revenue Department for the following report on the schemes at present under investigation for a water supply to Rangoon. British contractors and manufacturers who may be interested should apply for further particulars to Messrs. Rendel, Palmer & Tritton, the Consulting Engineers, of Westminster, or should instruct their representatives in India to approach the Officer-in-Charge, Hydro-electric Survey, care of the Chief Engineer to the Government of Burma, in the Public Works Department, Irrigation Branch, Rangoon.

"Last year, Messrs. Rendel, Palmer & Tritton, Consulting Engineers, of 15, Dartmouth Street, Westminster, in conjunction with Messrs. Vattenbyggnadsbyran, of Stockholm, were commissioned to investigate a combined hydro-electric and water supply Scheme known as the Yunzalin Scheme.

This year, as the Consulting Engineers advised that the Yunzalin Scheme was too costly, they were commissioned to investigate as many sources of supply within reasonable distance of Rangoon as they could find with a view to arriving at an economical solution of the problem of supplying the city with sufficient water.

The schemes investigated were :—

(1) *The Irrawaddy River Scheme.*—This is a pumping scheme which will draw water from the river near Ngapeo village some 31 miles due west of Rangoon. The details of the plant required are not as yet definitely known, but there will probably be included a special design of pumping plant to cope with the variations of the river, a single or double pipe line some 35 miles long with special connections to the existing source of supply, a tunnel under or bridge over the Rangoon river, a complete purification plant and, perhaps, sedimentation basins. Boosting pumps may also be necessary.

(2) *The Myitmaka Scheme.* No proposals have been made in connection with this scheme. Although it is comparatively near Rangoon, it has several very objectionable features.

(3) *The Hlegu Scheme.*—This project is also unlikely to mature. It is complicated and depends on very large entirely artificial storage and sedimentation basins.

(4) *The Wagyauing, Paunglin or Pazundaung Creek Scheme.*—The water for this project will be obtained from an artificial reservoir formed by building a comparatively low and short earth dam across the Paunglin River valley at a point some 19 miles north of Hlegu. From this reservoir the water will flow by gravity to a purification plant and main pumping station near Mingaladon, and then be pumped to the high level reservoir on Kokine Hill.

The length of main pipe line will be about 32 miles with some 13 miles of double line connecting up the existing system to the new, etc.

(5) *The Intagaw Schemes.*—These are a series of reservoirs in small valleys near mile 44 on the Rangoon-Hlegu-Pegu road. They are all low lying and the water obtained from them would be treated in much the same manner as that from the Wagyauing reservoir except that an additional pumping plant will probably be required.

The main pipe line is shorter, some 25 miles in all.

The main pipes required for any of these schemes will be 72 in. or 78 in. in diameter, and it is likely that a complete metre gauge railway line will be carried throughout their entire length.

Electrically driven centrifugal pumps have been suggested for the pumping stations, but no information is yet available as to the type of water purification plant which will be employed."

The Howrah Bridge.—Since last year's report was written a fresh survey of the connected schemes of the electrification of the Calcutta suburban railway system and the construction of an adequate bridge over the Hooghly has been conducted by Major R. E. Gordon, R.E., of the Railway Board, in consultation with Messrs. Merz & Maclellan, the electrical consulting engineers. Major Gordon spent several months in Calcutta early in 1928 and acted throughout in close co-operation with the officials of the Calcutta Port Commissioners, the Improvement Trust and the Railway Companies. He has submitted his report to the Railway Board, but many difficulties remain to be overcome before a definite decision can be made. In the meantime, Messrs Rendel, Palmer & Tritton have suspended all work on the plans for the suggested new floating bridge over the river. The work of strengthening the existing bridge by replacing the old shore spans has been completed. This work will prolong the life of the existing bridge for many years, but the construction of a new bridge is urgently required on account of the rapidly increasing traffic.

The Grand Trunk Canal, Bengal.—In my last report I stated that consideration of this project had been remitted to a special committee appointed by the Governor of Bengal in Council to examine the anticipated revenue from the Grand Trunk Canal project in all its bearings, including the canal route and the harbours, and to report on the estimates of revenue and any matter

relevant to a consideration thereof. At the end of November, 1927, an official resolution was issued stating that, as Government had decided not to proceed with the project, the Governor-in-Council declared this Committee to be dissolved. It is understood that urgent representations have since been made by the Committee of the Bengal Chamber of Commerce and that, as a result of a note by the Consulting Engineer to the Government of India consequent upon a visit paid to the Sunderbunds steamer routes with representatives of the Irrigation Department and the joint steamer companies, the Government of Bengal have decided to review the whole situation once more.

CHAPTER V.

DETAILED EXAMINATION OF THE LEADING IMPORT TRADES WITH SPECIAL REFERENCE TO CHANGES IN THE CHARACTER, VOLUME AND ORIGIN OF THE IMPORTS DURING THE FISCAL YEAR, APRIL 1ST, 1927, TO MARCH 31ST, 1928.

Note.—Unless otherwise stated, the statistics in this section are drawn from the publications of the Department of Statistics, Government of India, and relate to imports on private account only. Since all Indian statistics are now given in rupees and not in sterling, and in view of the labour which would be involved in converting into sterling, the lakh of rupees (Rs.100,000 or £7,500 at 1s. 6d. exchange) has been taken as the usual unit. It is fully realised that this is not so convenient a unit as the £ sterling.

MANUFACTURED AND MAINLY MANUFACTURED GOODS.

Cotton Textiles.—Yarns.—The total imports of cotton twist and yarn showed a slight advance from 49,424,558 lb. valued at Rs.662 lakhs in 1926-27 to 52,344,034 lb. valued at Rs. 679 lakhs in 1927-28. The principal increases took place in bleached yarns (752,000 lb.), coloured yarns (606,000 lb.), and mercerised yarns (1,196,000 lb.). Grey yarns advanced by only 378,000 lb.

The following table gives the imports of grey yarns arranged according to counts :—

Counts.				1926-27	1927-28
				lbs.	lbs.
Nos.	1 to 10	...	...	105,860	316,433
„	11 to 20	...	...	709,876	1,744,098
„	21 to 30...	...	...	430,723	398,432
„	31 to 40	...	...	20,951,473	21,978,217
Above 40's	...	...	...	6,965,572	6,414,918
Twofolds	...	...	...	6,601,161	5,291,265
Total imports (grey)				35,764,665	36,143,363

The remarkable increase of over a million lb. of grey 11's to 20's is almost entirely accounted for by increased shipments from Chinese mills at very low prices. The advance in 1's to 10's was also secured by China. The reduction in counts above 40's was suffered by Japan, the United Kingdom increasing her share of this trade by over 112,000 lb. The reduction in twofold spinnings was borne by the United Kingdom and Japan.

The next table sets forth the details of the imports of bleached yarns :—

Counts.				1926-27	1927-28
				lbs.	lbs.
Nos.	1 to 20	...	...	Not	4,658
„	21 to 30	...	...	separately	79,134
„	31 to 40	...	...	recorded	1,266,952
Above 40's	...	...	...	prior to	1,057,087
Twofolds	...	...	...	1927-28	2,405,281
Total imports (white)				4,061,521	4,813,112

The whole of the imports of 21's to 30's were drawn from the United Kingdom. Of 31's to 40's the United Kingdom supplied 1,171,872 lb. and Japan 94,000 lb. The counts above 40's were also drawn almost exclusively from the United Kingdom. Twofolds were obtained from the United Kingdom (1,550,000 lb.), Japan (774,000 lb.) and other countries (82,000 lb.).

Coloured yarns were imported as follows :—

		1926-27	1927-28
Counts.		lbs.	lbs.
Nos. 1 to 20	... ..	252,280	399,425
„ 21 to 30	... ..	521,988	376,671
„ 31 to 40	... ..	3,453,901	4,059,345
Above 40's	... ..	596,928	564,470
Twofolds	... ..	544,921	576,079
Total imports (coloured)		5,370,018	5,975,990

The United Kingdom shipped practically the whole of the counts below 31's. Of 31's to 40's the United Kingdom supplied 2,647,000 lb. and other countries 1,412,000 lb. Above 40's the United Kingdom sent 434,747 lb. and other countries 129,723 lb. Twofolds were almost entirely drawn from the United Kingdom.

Imports of mercerised yarns were almost entirely confined to twofolds, the total imports of which amounted to 5,360,895 lb. Japan supplied no less than 5,073,030 lb. and the United Kingdom 286,665 lb.

The sources of supply of yarns of all kinds were as follows :—

Country of origin.	1926-27		1927-28	
	Lbs.	Rs. lakhs.	Lbs.	Rs. lakhs.
United Kingdom	20,016,156	3,08	20,559,141	3,09
Netherlands	486,435	9	587,965	9
Switzerland	691,130	10	484,059	6
Italy	313,612	4	425,256	6
China	945,032	8	12,866,303	1,20
Japan	26,619,033	3,20	16,974,830	2,24
Other countries	263,160	3	446,480	5
Total imports...	49,424,558	6,62	52,344,034	6,79

The reduction in the imports from Japan has been equalised by increased imports from the China mills, which are mostly owned by Japanese companies. The British position is practically stationary.

The most noteworthy event of the year was the passing, in September, 1927, of the Indian Tariff (Cotton Yarn Amendment) Bill, which, consequent upon the report of the Cotton Tariff Board and as a measure of protection for Indian mills, substituted for

the 5 per cent. *ad valorem* import duty on all cotton yarns an import duty of 5 per cent. *ad valorem*, or $1\frac{1}{2}$ annas per lb., whichever is the higher. A study of the returns shows that the duty has had little effect on the imports of British yarns, which are usually counts of 40's and upwards of grey yarn and specialities which are of sufficiently high price that the $1\frac{1}{2}$ anna per lb. duty is less than 5 per cent. and consequently the rate remains as before. The imports of yarn from China of counts below 40's has been phenomenal, but, as the new duty was only in force for half the year, it is probable that an undue proportion of these were shipped in the first few months of the year in anticipation of the protective measure. Sir George Rainy, in speaking on the Bill on September 6th, 1927, briefly recapitulated the position in the following terms:—

"In the first place there are the higher counts, that is, everything above 40's or at any rate above 50's. As regards these the effect of the duty must be very small. When you get to the really high counts, the $1\frac{1}{2}$ anna duty is less than 5 per cent. and obviously therefore it cannot raise the price. When you come a little lower down to the counts between 60's and 40's, the increase in the price will be quite small. As far as I can make out from the figures in the trade returns, between 50's and 60's, the $1\frac{1}{2}$ anna duty would not be such more than 6 per cent. and between 40's and 50's perhaps 7 per cent. As regards the counts below 30's, there are good reasons for thinking that the price cannot rise very much because the internal competition between the Indian Mills on these lower counts is so severe—the total imports being only about 2 million lbs. per year—that in all probability any rise in price which the duty might bring about would almost instantly be checked by an increase in the Indian production which would bring down the price again. Finally there are the medium counts from 31's to 40's and here it seems likely that the duty might raise the price of yarn by almost the full amount of the duty. It is in respect of these counts that the Indian Cotton Mills stand to gain and to a limited extent the handloom weaver stands to lose."

The production of the Indian mills compared with the imports is shown in the following statement:—

	Imports in lbs. (1,000)	Indian Mills. Production in lbs. (1,000)
Annual average for the five years 1909-10 to		
1913-14	41,794	646,757
1923-24	44,575	617,329
1924-25	55,907	719,390
1925-26	51,688	686,427
1926-27	49,425	807,116
1927-28	52,344	808,911

The subjoined table compares by counts the quantities of imported cotton twist and yarn with the quantities produced in Indian mills:—

	1913-14 (pre-war year).		1924-25		1925-26		1926-27		1927-28	
	Imports.	Pro- duction.	Imports.	Pro- duction.	Imports.	Pro- duction.	Imports.	Pro- duction.	Imports.	Pro- duction.
	lbs. (1,000)	lbs. (1,000)	lbs. (1,000)	lbs. (1,000)	lbs. (1,000)	lbs. (1,000)	lbs. (1,000)	lbs. (1,000)	lbs. (1,000)	lbs. (1,000)
Cotton twist and yarn—										
Nos. 1 to 20	1,254	492,693	7,170	469,810	4,772	444,748	1,068	515,681	2,465	494,788
„ 21 to 25	896	123,995	477	154,672	543	142,759	483	168,345	416	182,221
„ 26 to 30	3,686	42,999	934	69,140	575	71,029	470	79,966	439	80,839
„ 31 to 40	23,657	19,712	27,687	19,368	26,294	19,738	24,405	27,657	27,305	33,757
Above No. 40	7,859	2,699	7,659	5,822	6,685	5,834	7,562	11,531	8,039	11,142
Grey and coloured two folds (doubles)	—	—	5,833	—	6,195	—	7,146	—	13,634	—
White, unspecified description and waste	6,819	679	6,147	578	6,624	2,319	8,291	3,936	46	6,171
Total	44,171	682,777	55,907	719,390	51,688	686,427	49,425	807,116	52,344	808,911

It will be noted that the Indian mill production remained almost stationary, the increased output of counts above 20's being offset by a reduction in spinnings below 20's, which were driven off the market by imports from China which were dumped into India at such low prices that competition became almost impossible. It will be interesting to see whether the additional protective import duty will suffice to protect the Indian mills against this competition after it has been enforced for a complete year.

The Bombay Millowners' Association in their report for 1927 state that the year opened with a stock of 34,000 bales of yarn, the monthly average stock was 35,000 bales, and the year closed with a stock of 39,000 bales. They add that :—

"the position in the yarn market continued unsatisfactory throughout the year, the rise in the price of cotton not being followed by a proportionate rise in the price of yarns. How serious the position has been may be judged from the fact that the number of inactive spindles went on increasing practically from month to month, and at the end of the year over a fourth of the spindles on site were idle. In spite of this, the stocks with the mills at the end of the year stood at a higher figure than at any other period during the year under report. The prices of 10's and 20's yarns which were 7 annas and 8½ annas a pound at the end of 1926 reached their highest in the middle of September with quotations at 10½ annas and 12½ annas a pound. The year closed with prices at 9½ annas and 11½ annas a pound with very poor demand. For all counts of saleable yarn prices remained unremunerative more or less throughout the year."

Piece-goods.—The following table shows the quantitative imports of the three main classes of piece-goods for the last pre-war year and during the past four years :—

Year.	Grey (unbleached)	White (bleached)	Coloured, Printed or Dyed.
1913-24	1,534.2	793.3	831.8
1924-25	845.5	548.9	407.0
1925-26	709.1	465.1	365.8
1926-27	748.4	571.0	447.4
1927-28	875.5	556.5	504.8

The next statement gives the *value* of the three main classes in the last pre-war year and during the past four years :—

Year.	Grey (unbleached).	White (bleached)	Coloured, Printed or Dyed.
*1913-14	16,966,515	9,523,204	11,907,683
*1924-25	18,992,655	13,487,904	13,343,973
†1925-26	16,415,418	11,994,909	11,940,876
†1926-27	14,712,768	13,220,371	12,916,839
†1927-28	15,936,124	11,562,692	13,143,102

*At exchange of 1/4.

†At exchange of 1/6.

The heavy fall in the values of bleached goods imported during the past year more than offset the slight increases in the grey and coloured varieties. The total yardage imported is still only 61

per cent. of that imported in 1913-14, but is 6 per cent. greater than in 1926-27 as a result of lower prices. The declared values per yard over the same series of years gives the clue to the position, which is, briefly, that the falling off in the imports of cotton piece-goods is in inverse ratio to the increase in their price.

Cotton piece goods.	1913-14		1924-25		1925-26		1926-27		1927-28	
	Rs.	As. P.	Rs.	As. P.	Rs.	As. P.	Rs.	As. P.	Rs.	As. P.
Grey (unbleached)	0	2 8	0	5 5	0	4 11	0	4 2	0	3 11
White (bleached)	0	2 11	0	5 11	0	5 6	0	4 11	0	4 7
Coloured, printed or dyed ...	0	3 5	0	7 10	0	6 11	0	6 2	0	5 9

VARIETIES OF PIECEGOODS IMPORTED.

Grey (unbleached).	1913-14 pre-war year).	1925-26	1926-27	1927-28
	Million yds.	Million yds.	Million yds.	Million yds.
Dhuties, saris and scarves ...	806.1	430.1	471.6	527.6
Jaconets, madapollams, mulls, etc.	150.4	57.0	72.6	78.9
Longcloths and shirtings ...	545.4	171.3	168.8	233.4
Sheetings	2	30.4	18.3	23.0
Drills and jeans	21.3	19.4	14.9	11.2
Other sorts	10.8	9	2.2	1.4
Total	1,534.2	709.1	748.4	875.5

White (bleached).	1913-14 (pre-war year).	1925-26	1926-27	1927-28
	Million yds.	Million yds.	Million yds.	Million yds.
Dhuties, saris and scarves ...	104.3	72.6	114.0	71.7
Jaconets, madapollams, mulls, etc.	307.9	186.8	234.8	224.5
Longcloths and shirtings ...	115.3	93.8	97.4	112.1
Nainsooks	204.7	77.0	65.9	93.0
Drills and Jeans	5.7	6.1	5.1	6.9
Checks, spots and stripes ...	16.1	7.0	12.3	14.1
Twills	8.3	12.2	11.8	14.9
Other sorts	31.0	9.6	29.7	19.3
Total	793.3	465.1	571.0	556.5

Coloured, Printed or dyed.	1913-14 (pre-war year).	1925-26	1926-27	1927-28
	Million yds.	Million yds.	Million yds.	Million yds.
Dhuties, saris and scarves ...	115.2	29.9	35.5	38.4
Cambrics, etc. ...	113.6	34.7	43.2	50.4
Shirtings ...	152.6	72.5	90.8	88.7
Prints and chintz ...	209.7	56.1	50.5	69.9
Drills and jeans ...	30.0	32.4	41.9	64.2
Checks, spots and stripes ...	19.7	10.7	17.0	18.4
Twills ...	31.4	20.4	29.0	40.5
Other sorts ...	159.6	109.1	-136.5	134.3
Total ...	831.8	365.8	447.4	504.8

The increase of 56 million yards in the case of grey dhuties reflects the heavy purchases made in Manchester in December-January-February, 1926-27, when the raw material stood at $6\frac{1}{2}d.$ to $7\frac{1}{2}d.$ per lb. Similarly the increased imports of grey shirtings, amounting to no less than 65 million yards are an eloquent proof of the fact that the scale of India's imports of piece-goods are roughly in inverse ratio to their price. In December-January, 1926-27, when Manchester prices were at their nadir, qualities of grey shirtings were shipped which, owing to high prices, had not been purchased since the outbreak of war.

In white goods the reduction by 42 million yards of the imports of white dhuties, saris and scarves is most marked and is due to the transfer in the customs statistics from the beginning of August, 1927, of white yarn dhuties from the heading of white goods to that of grey goods.

The recovery in the imports of prints is encouraging, but the arrivals of these goods are only a third of pre-war quantities. Dyed drills and jeans and coloured twills show a satisfactory expansion.

Sources of Imports.

(1) Grey Goods.—

Countries of Consignment.	1926-27		1927-28	
	Yds.	Rs. (lakhs).	Yds.	Rs. (lakhs).
United Kingdom ...	588,781,540	15.24	651,160,996	15.54
China ...	1,790,000	4	7,048,400	16
Japan ...	154,865,422	4.23	214,773,511	5.46
United States ...	2,690,128	10	2,241,237	7
Other countries ...	283,886	1	313,773	1
Total imports ...	748,410,976	19.62	875,537,917	21.24

The notable increase in the yardage from the United Kingdom is satisfactory so far as it goes and represents the heavy purchases of grey dhuties and shirtings which were made during the first two months of 1927, when Lancashire cloth prices were low. Japan, however, improved her quantitative shipments to an equal extent and the increase in the value of her shipments is remarkable, pointing to the fact that a greater proportion of the higher qualities of grey goods was included. The increase in the shipments of grey shirtings, &c., from the Japanese mills in Shanghai, which represent the bulk of the imports from China, is noteworthy.

(2) *Bleached Goods.*—

Countries of Consignment.	1926-27		1927-28	
	Yds.	Rs. (lakhs).	Yds.	Rs. (lakhs.)
United Kingdom ...	550,284,568	16,57	526,753,340	14,20
Netherlands ...	5,955,971	25	7,505,704	30
Switzerland ...	8,643,416	45	12,176,183	56
Japan ...	2,881,728	9	5,598,521	15
Other countries ...	3,185,854	16	4,428,544	20
Total ...	570,951,537	17,52	556,462,292	15,41

The British share of the value of the reduced trade declined from 95 per cent. to 92 per cent., while the Continent and Japan correspondingly increased their proportions. This apparent reduction, however, is entirely due to a change in the method of classification adopted by the customs authorities. As the Collector of Customs, Calcutta, states in his annual report: "The decline is due to the transfer in our statistics, from the 'white' to the 'grey' head, of unbleached cloth woven in Lancashire from white Egyptian cotton. This change was made under general orders from the beginning of August, and in the eight succeeding months 41,694,530 yards of these 'white yarn dhuties,' valued at Rs.1,10,25,006, have been shown as grey cloth in the Calcutta returns."

(3) *Coloured, Printed or Dyed.*—This heading is made up as follows:—

Description.	1926-27		1927-28	
	Yds.	Rs. (lakhs).	Yds.	Rs. (lakhs).
Printed goods ...	176,854,152	6,13	235,343,234	7,53
Dyed goods ...	156,984,887	6,17	158,322,295	5,61
Woven coloured goods ...	113,603,188	4,92	111,175,803	4,38
Total imports ...	447,442,227	17,22	504,841,332	17,52

The improvement in the print trade is most satisfactory. The provenance of the imports was as follows :—

Countries of Consignment.	1926-27		1927-28	
	Yds.	Rs. (lakhs).	Yds.	Rs. (lakhs).
United Kingdom ...	318,300,188	12,58	352,210,938	12,59
Germany ...	3,022,526	20	2,644,414	18
Netherlands ...	13,697,487	75	12,069,810	61
Belgium ...	2,171,294	19	1,745,167	14
Switzerland ...	3,155,209	23	2,526,539	19
Italy ...	15,550,975	70	24,562,727	85
Straits Settlements ...	3,297,968	20	3,167,883	17
Japan ...	85,821,800	2,25	102,667,851	2,63
Other countries ...	2,424,780	12	3,246,003	16
Total imports ...	447,442,227	17,22	504,841,332	17,52

The reduction in Lancashire prices is clearly shown by the fact that the values of the British shipments remained approximately the same despite an increase of nearly 32 million yards in the quantity. Japanese competition in woven coloured goods and dyed goods is increasing rapidly. She also ships large quantities of printed flannelettes. Italian competition is most serious in printed flannelettes and twills, in dyed flannelettes and in coloured woven coatings and trouserings. The quality, dye and finish of the Italian goods is improving rapidly and Italian products now compete successfully with Lancashire in a constantly widening range of cloths.

(4) *Fents of all Descriptions.*—There has been a satisfactory advance in the imports of fents of all descriptions :—

Countries of Consignment.	1926-27		1927-28	
	Yds.	Rs. (lakhs).	Yds.	Rs. (lakhs).
United Kingdom ...	9,507,913	35	12,985,149	41
United States ...	11,442,782	29	23,246,640	52
Other countries ...	188,933	1	306,559	1
Total ...	21,139,628	65	36,538,348	94

American competition is becoming very keen. As I stated in my last report, this is largely due to the American attitude towards fents, which have hitherto been regarded in the United States as a waste product to be sold for what they will fetch. American shippers have therefore been able to place their fents on the Indian market at prices much below British quotations. It is to be hoped that the large firms of bleachers, dyers and printers in the United Kingdom will recognise this in future when disposing of their large stocks of fents to exporters.

Shares of the Principal Competitors in the total quantities of piece-goods imported :—

Countries of Consignment.	1913-14	1924-25	1925-26	1926-27
	Per cent.	Per cent.	Per cent.	Per cent.
United Kingdom	97·1	82·3	82·0	78·2
Japan	0·3	13·9	13·6	16·3
Holland	0·8	1·1	1·1	1·0
Italy	0·7	0·6	0·8	1·2
Switzerland	0·2	0·4	0·6	0·7
Other countries	0·9	1·7	1·9	2·6
Total	100·0	100·0	100·0	100·0

Indian Mill Competition.—The subjoined detailed statement gives the quantity (in pounds and their equivalent in yards) and description of the woven goods produced in Indian mills during the past three years. It will be noted that, in spite of the continued depression in Bombay and Ahmedabad, the total yardage produced in all-India rose from 2,259 million in 1926-27 to 2,356 million in 1927-28: The increase of nearly 100 million yards was principally made up of increased production of the following types of cloth :—

Grey Shirtings and Longcloth, an increase of 40 million yards.

Grey Dhuties, an increase of 30 million yards.

Grey Khaddar Cloth, an increase of 17 million yards.

Grey Drills and Jeans, an increase of 12 million yards.

The total weight of cloth of all kinds rose from 539 to 568 million pounds.

Description.	Twelve months, April to March.		
	1925-26	1926-27	1927-28
<i>Grey and Bleached piecegoods—</i>			
Chadars ...	{ pounds 22,787,297	24,137,331	25,819,802
	{ yards 62,075,591	65,555,014	66,824,306
Dhuties ...	{ pounds 110,134,379	123,121,505	129,701,309
	{ yards 516,394,318	585,705,264	615,937,386
Drills and jeans	{ pounds 18,106,061	20,177,031	22,912,951
	{ yards 74,150,144	79,703,504	91,197,644
Cambrics & lawns	{ pounds 580,764	664,147	986,274
	{ yards 3,168,432	3,385,935	5,479,124
Printers ...	{ pounds 6,003,983	4,856,262	4,608,509
	{ yards 25,871,997	20,899,248	20,245,960
Shirtings & long-cloths	{ pounds 120,019,866	134,771,604	140,831,481
	{ yards 521,125,944	580,536,490	620,027,624
T-cloth, domestics and sheetings ...	{ pounds 17,370,593	23,680,244	24,630,019
	{ yards 74,073,333	93,314,603	92,163,833
Tent-cloth ...	{ pounds 3,990,717	3,166,727	2,618,279
	{ yards 9,004,906	6,732,119	6,064,123
Khadi, Dungri or khaddar	{ pounds 30,444,405	35,809,549	41,485,317
	{ yards 87,406,216	98,670,894	116,118,753
Other sorts ...	{ pounds 9,826,309	11,326,965	9,873,922
	{ yards 41,034,924	42,734,703	40,943,836
Total ...	{ pounds 339,265,174	381,711,365	403,467,863
	{ yards 1,414,305,805	1,577,237,774	1,675,002,583
<i>Coloured piecegoods</i>	{ pounds 116,695,300	145,320,476	148,297,621
	{ yards 540,156,845	681,478,291	681,557,222
<i>Grey and coloured goods other than piecegoods</i>	{ pounds 3,726,511	4,151,302	4,205,147
	{ dozens 955,804	1,006,548	992,107
<i>Hosiery ...</i>	{ pounds 872,861	983,308	1,210,366
	{ dozens 316,546	351,919	437,215
<i>Miscellaneous ...</i>	{ pounds 3,772,129	4,289,142	5,828,863
<i>Cotton goods mixed with silk or wool</i>	{ pounds 707,712	2,313,760	4,794,002
<i>Grand total ...</i>	{ pounds 465,039,687	538,769,353	567,803,862
	{ yards 1,954,462,650	2,258,716,065	2,356,559,805
	{ dozens 1,272,350	1,358,467	1,429,322

The Committee of the Bombay Millowners' Association, in their review of the year 1927, state :—

“ It is generally anticipated that the cotton mills of Bombay as a whole will show better results for the year 1927 than during the preceding year, or in other words, the combined losses for 1927, taking depreciation into account, will not be as heavy as in previous years. From the balance sheets of a few concerns already published it may be assumed that such expectation is certain to be realised. This, however, by no means indicates that there has actually been a healthy trade recovery or that the difficulties which confronted the industry have disappeared or even materially diminished. The profits earned

are in most cases merely due to the purchase of abnormally cheap American cotton and the rise in the cotton market after such purchases were made. Had the industry really prospered, stocks of both yarn and cloth would have diminished during the year under review. On the contrary, stocks at the end of the year showed an increase of about 30 per cent. for cloth and 15 per cent. for yarn in spite of the fact that on an average about 10 per cent. of looms and 20 per cent. of spindles had remained idle during the year. Even those mills which have shown fair profits for the year were actually working at a loss during the last two or three months of the year when they had not the advantage of the cheap American cotton, the same having been used up. Again, if we turn to import figures, it will be clear that the competition during the year was even keener than before, and under the circumstances it was scarcely possible to sell our own products at remunerative rates. The total imports of piecegoods of all descriptions into Bombay rose from 362 million yards in 1926 to 460 million yards in 1927 or an increase of about 27 per cent. It should be noted that imports from Japan alone rose from 82 million yards in 1926 to 115.9 million yards in 1927 or a rise of 40 per cent. Similarly, if we take combined imports from the United States, Italy and Switzerland, there was an increase of about 50 per cent.—from 35.6 to 52.4 million yards. Imports of yarn also rose from 32 million pounds in 1926 to 42 million pounds in 1927, showing an increase of about 28 per cent. These figures give a clear indication of the depressed state of our industry. Before entering into a detailed survey of the state of the cotton, yarn and cloth markets during the year 1927, it must be stated that the outstanding event of the year was the publication of the Textile Tariff Board Report and the Resolution containing the Government's decision thereon. This decision was subsequently modified to a certain extent and a Bill giving some relief to the purely spinning section was passed by the Assembly. Since this meagre relief was granted, the industry has by no means improved in spite of various economies effected, and it appears that it is not likely to revive in the near future unless Government resolve to grant protection to the industry on the lines recommended in the Majority Report.

The cloth market remained in a most unsatisfactory state. While till the end of April prices showed an improvement following cotton, and stocks did not increase appreciably, with the unsettled state of the cotton market in May and June, confidence of the buyers was shaken and stocks began to rise rapidly, although nominal quotations remained steady. With the feverish activity in cotton that set in after the publication of the first Bureau report in August, the cloth market also became active on speculative buying based on cotton crop reports, without any actual demand from consuming centres. As a result mill stocks, which stood at their highest at the end of July, showed a welcome decrease which, however, was not large, as most of the purchases were of a speculative nature. But as cotton prices showed continuous weakness from the middle of September till the end of November, which is normally the buying season for cloth, much of this speculative purchase was thrown back on the market at considerable loss, and stocks at the end of the year stood at a figure representing more than 2½ months' production. As regards prices, standard longcloth which at the beginning of the year was quoted at 13½ annas per lb. reached the height of 17½ annas, at which rate sales are reported to have been made among bazaar dealers, but no sales were made by mills at these rates, the highest rate at which sales were made by the mills being reported at 16½ annas per lb. The rate at the end of the year was 15 annas a lb. with demand on a moderate scale."

The year opened with a stock of 121,000 bales of cloth held by the Bombay mills, the monthly average was 135,000 bales, while at the end of the year the returns showed a stock in Bombay of 152,000 bales.

A serious strike of operatives in the Bombay mills broke out in April, 1928, and at the time of writing (June, 1928), is still in progress. The mills are closed, a large proportion of the operatives have returned to their homes in the mofussil and the dispute shows no signs of being settled. Meanwhile, the uncleared stocks of cloth have fallen from 159,000 bales at April 30th to 134,000 bales at May 31st and 109,000 bales at June 30th. Prices have not advanced to the extent which was anticipated.

The Indian Trade Mission.—In accordance with the recommendation contained in paragraph 101 of the report of the Indian Tariff Board (Cotton Textile Industry Inquiry) the Government of India in January, 1928, announced its intention of sending a Trade Mission to certain countries in the near East and in Africa to make a survey of their potentialities as markets for Indian cotton goods and to make recommendations for the encouragement of the export of cotton manufactures from India, including the appointment of Indian Trade Commissioners where desirable. The Mission, which consisted of Dr. D. B. Meek, O.B.E., Director-General of Commercial Intelligence and Statistics, as Government representative, and Mr. T. Maloney, M.C., Secretary to the Bombay Millowners' Association, as the representative of the Indian cotton textile industry, accompanied by Mr. Jeevandas Purshotam Dutia, of Messrs. Lalji Naranji & Co., as technical adviser, left Bombay for Bushire on January 27th, 1928, and visited Bushire, Basra and Baghdad before proceeding by the desert route to Palestine, Syria, Constantinople and Egypt. They are at the present moment (June, 1928) in South Africa, and before returning to India will have completed a survey of the prospects in the Union and also in the East African Dependencies.

Certain of their interim reports have been forwarded to the Department of Overseas Trade, to whom inquiries with regard to the further progress and results of the Mission should be addressed by British firms who may be interested.

Conditions in the Large Import Markets.—*Calcutta.*—A leading authority in the piece-goods trade states:—

"The good effect of the resolution of the Calcutta Marwari Chamber of Commerce restricting forward buying during the latter half of 1926 was felt in the beginning of 1927, and as stocks at this period were very low, the condition of the market became healthy and a period of considerable activity was experienced during the first half of 1927. A further factor which contributed to the improved trade conditions was that American cotton in Liverpool had fallen to below 6½d. in December, 1926, and when business was resumed, manufacturers' prices were considered to be on a safe basis by piece-goods dealers. The Indian mills also took advantage of the activity and put through a substantial and profitable business during these months. From June to October the demand was spasmodic and as manufacturers' prices were on a much higher level than those ruling locally, business was restricted. During the last quarter of the year, which is the best selling season, the off-take from the bazaar was comparatively poor and the market continued more or less inactive except for a temporary revival in December. In November,

the Members of the Marwari Chamber of Commerce, with a view to checking overtrading, resolved not to buy any goods shipped during April-May and September, 1928.

The year 1928 opened with heavy stocks and demand from the consuming markets poor. Manufacturers' prices, in sympathy with the gradual rise in cotton, were put up, but bazaar prices have not responded and the business done so far in Calcutta is of small dimensions. In April, the Members of the Marwari Chamber further resolved not to buy Whites shipped during June-July, 1928.

General.—In Continental goods and particularly in goods of Italian production, in both printed and fancy styles, there has been a marked increase in imports during the period under review. This increase is especially noticeable in the artificial silk styles, which owing to their comparative cheapness, find a ready sale in the Indian markets.

The imports from Japan also show a considerable increase: The following percentages of the imports of Japanese goods into Calcutta during the last three years are significant :—

1927	...	...	...	27·98%
1926	...	...	...	22·92%
1925	...	...	...	16·55%

Besides the standard lines of dhuties and grey shirtings, Japan has been paying more attention to fancy styles also, which are arriving in increased quantities."

Bombay.—The following note has very kindly been provided by the head of one of the leading import firms in Bombay :—

" During the period from 1st April, 1927, to 31st March, 1928, no outstanding features have presented themselves. The usual movements in Home prices, occasioned by fluctuations in the value of the raw material, have been witnessed.

Whites.—The commencement of the period under review marked practically the lowest point in values touched during the year, which was followed by a steady upward movement until September, 1927, when values again gradually declined and materially lower prices were witnessed in December and during the early months of the year 1928. Unfortunately when the above advance was being registered Home values were not fully reflected in consuming markets and a good deal of profitable business was missed on the rise. When the decline set in, however, both import houses and dealers had replaced stocks and money was lost in consequence. It was during this period that Kathiawar and Guzerat, which are amongst the principal consuming centres for Bombay imports, reflected the true conditions caused by the floods of last year, and goods which had been bought in anticipation for the usual requirements of these districts had to be disposed of in other markets at a loss.

Prints.—It was at the commencement of this period that Manchester shippers broadcasted the information that dealers could obtain substantial reductions if they placed orders in larger quantities than they had done in the past as the cost of production was materially lessened by " printing runs." With a few exceptions dealers took advantage of these concessions and overtrading was the result. In consequence, we find that to-day our market is full of printed sorts which are extremely difficult to move, even at a discount, owing to the poor demand resultant from months of congestion in these lines.

Fancies.—As regards fancies, over-trading in these has also been general and although stocks up-country are said to be comparatively low, in Bombay they are decidedly above normal.

Another point worthy of notice has been the lack of demand from Persia. Under normal conditions exports from Bombay to Persian Gulf Ports are considerable, but Russian manufacturers are now able to undercut our prices,

and we find that business is falling off considerably and will continue to do so unless other arrangements supersede the present trade agreement between Persia and the Soviet Government.

General.—Generally speaking, Indian dealers have little to show for their year's trading, and after liquidating their present commitments, many will show balances on the wrong side.

Japanese Piecegoods. A survey of last year's piecegoods trade would be incomplete without some reference to imports from Japan which are steadily increasing and are a menace not only to Lancashire, but to Indian mills themselves. We may go so far as to point out that the biggest lines imported from Japan are grey shirtings and grey sheetings, both of which are abundantly produced by mills in this country. The reasons that make it possible for Japan to compete in this respect are too well-known to need reiteration here, but their serious effect should not be lost sight of. During the calendar years 1926 and 1927 Japanese imports were as under :—

1926	...	...	232,060,472 yards
1927	...	...	333,810,456 "

thus showing an increase of over one hundred million yards during the latter year. Besides this, Japan competes with the Indian mills' export trade to a crippling extent."

Karachi.—The following report was sent to me in May by an experienced Karachi correspondent :—

"During the period April to October bazaar prices increased gradually by about 25 per cent., and the tone was healthy. A good business was done, and dealers made quite satisfactory profits. They lost a portion of these profits in October-November-December, however, as rates declined about 12 per cent., this being mainly due to the fall in the price of cotton. From the end of December to the middle of February prices again appreciated about 3 per cent. or 4 per cent. (the price of cotton having risen) and demand was good.

Ready goods were disposed of very satisfactorily, and a fair business was done for shipment in April-May-June, especially in Whites. From the middle of February to the end of March bazaar prices suffered a decline of about 4 per cent., there being a falling off in demand from up-country, this being due to consumers' requirements having been filled in previous months. The lamentations emanating from Lancashire during this period regarding the unsatisfactory position of makers did their share in causing a decline. Such decline was not, however, a serious one.

On balance, the dealers made money during the year, and one can say with pleasure that they are undoubtedly using more care and forethought in their operations than was the case formerly. In the old days the dealers needed little encouragement to speculate and buy in excess of their likely requirements, but they have now changed their methods for the better.

Stocks.—At the end of March stocks were estimated to be in the neighbourhood of 25,000 packages, this being below normal. Stocks up-country were also small.

Prospects.—The outlook is considered to be good, because dealers are not overloaded with purchases. A great deal depends, of course, on the Manchester market, and on the attitude of those responsible for the publication of the unsettling Cotton Bureau reports. Given something approaching normal conditions, however, there is every reason to hope for at least a fairly satisfactory year."

Another prominent Karachi importer writes :—

"For this market and its districts the year was quite a normal one (according to the Karachi Chamber of Commerce lists, the total imports of

foreign goods were only about 9,400 packages less than the previous year, which was a big one). The demand generally was good and, in fact, clearances often outpaced arrivals with the result that stocks in Karachi were almost all along, and are still, very low. Yet the year was not very profitable to dealers and their anxiety to clear their holdings quickly made them sometimes miss a better profit and sometimes face a small loss. There was all along some little lack of confidence among dealers, most of whom, however, regained courage during the last few months owing to the steadiness of the Home market. The recent brisk advance of the latter has practically put a stop to any fresh business at present."

Madras.—The Collector of Customs, in his report on the Seaborne Trade of the Madras Presidency for the year 1927-28, states :—

"The total imports of cotton goods declined by Rs.86·37 lakhs or by 19 per cent., which may generally be attributed to the following causes :—

(a) Restricted trade due to unfavourable agricultural conditions prevailing in the Presidency; (b) Lack of incentive to new business owing to continuous decline in prices; (c) Overstocked state of the market; and (d) Indian-made piecegoods competing with the imported article.

The imports of cotton piecegoods (including fents) fell by 21 per cent. in quantity from 83·31 million yards to 66·12 million yards, and by 24 per cent. in value from Rs.299·15 lakhs to Rs.226·82 lakhs, the decrease being shared by all the important classes of piecegoods.

Grey cotton goods fell by 9·62 million yards or nearly 26 per cent. in quantity from 37·33 million yards to 27·72 million yards, and by 29 per cent. from Rs.122·64 lakhs to Rs.86·53 lakhs in value. The average price per yard dropped from Re.0-5-3 to Re.0-4-11. The chief types of grey goods are (1) plain grey and (2) bordered grey. Under plain grey, the two main varieties which are largely imported are (a) jaconets, including madapollams, mulls and cambrics, and (b) longcloth and shirtings; and under bordered grey, dhuties, saris and scarves form the largest item. The imports of jaconets, etc., under plain grey amounted to 14·37 million yards valued Rs.47·10 lakhs as compared with 20·93 million yards valued Rs.68·71 lakhs, the United Kingdom being the main source of supply (14·36 million yards), while arrivals of longcloth shirtings totalled 5·97 million yards, valued Rs.17·14 lakhs, as compared with 6·37 million yards, valued Rs.19·54 lakhs, the United Kingdom again being the main contributor. Under "bordered grey," the arrivals under "dhuties, saris and scarves" decreased from 9·81 million yards to 6·75 million yards in quantity, and from Rs.33·67 lakhs to Rs.20·32 lakhs in value.

The imports under "white (bleached) goods" declined by 15 per cent. in quantity from 30·21 million yards to 25·59 million yards and by 22 per cent. in value from Rs.115·91 lakhs to Rs.90·26 lakhs, to which the United Kingdom contributed 25·17 million yards as against 29·90 million yards in the preceding year. The principal varieties under this class of goods are (in order of importance):—(1) mulls; (2) dhuties, saris and scarves; (3) nainsooks; (4) jaconets, madapollams, cambrics, and muslins; (5) longcloth and shirtings; and (6) twills. Heavy decreases occurred during the year under all the above named varieties. The average price per yard went down from Re.0-6-2 to Re.0-5-8.

Under coloured goods there were three types, viz., (1) printed, (2) dyed, and (3) woven. The imports under "printed goods" dwindled from 9·35 million yards to 6·49 million yards in quantity, and from Rs.33·86 lakhs to Rs.23·58 lakhs in value, while those under "dyed goods" went up from 5·73 million yards to 6·20 million yards in quantity, and from Rs.23·37 lakhs to Rs.25·82 lakhs in value owing to larger arrivals of saris and scarves, which rose by nearly 37 per cent. in quantity from 1·77 million yards to 2·42 million yards, and by about 42 per cent. in value from Rs.7·07 lakhs to Rs.10·08

lakhs. The foreign import trade under "woven coloured goods" is not of much importance since the arrivals under this class of goods are usually small, the consumers in the Presidency preferring country woven goods to those woven in foreign countries. The total imports under coloured goods diminished from 15.75 million yards to 12.80 million yards, the United Kingdom being the main source of supply. There was not much variation in the imports of cotton manufactures other than piecegoods.

In the total imports of cotton goods, including twist and yarn (which aggregated during the year to Rs.357.74 lakhs) the share of the United Kingdom was Rs.335.71 lakhs or 94 per cent., and that of Japan Rs.2.55 lakhs or only 1 per cent. as against 91 and 6 per cent. in the preceding year."

An importer in Madras reports as follows :—

English Piecegoods.—1st Quarter (April, 1927 to June, 1927). There was good demand in the market and the dealers were able to dispose of their goods with profit.

2nd Quarter and 3rd Quarter (July, 1927, to December, 1927). The market became very dull and prices declined. Dealers were only able to dispose of their goods at a loss. The Deepavali (October) sales of the year did not come up to expectations.

4th Quarter (January, 1928, to March, 1928). The market gradually improved and the local rates also increased. The dealers were able to dispose of their stocks profitably to some extent. On the whole the official year 1927-28 was a fair one. Dealers did not sustain any loss and stocks also have been considerably reduced.

Japanese Piecegoods.—Japan succeeded in killing the English grey shirting business on account of much lower prices. The Japanese are now trying to compete with English jaconets, etc., which they are manufacturing on a limited scale and are selling at lower rates than the Lancashire cloths. As regards the stock of the Japanese goods in the market, we cannot exactly say, since Japanese goods land mostly at Bombay. Apart from these the Japanese business is entirely in the hands of Marwari merchants, from whom the local dealers always purchase.

Present Position.—The market is dull with retail sales and small enquiries from up-country. There has been a slight advance in the selling prices of Grey and White Mulls on account of shortage of stocks, but it is anticipated that the prices are likely to be reduced in view of the quantity of goods expected shortly. Coloured goods are moving off on a small scale and prices are steady. The present stock in the market is estimated to be about 5,000 packages or a little more, of which Grey Mulls form the major portion.

Future Prospects.—The goods ordered for shipment up to June, 1928, are expected to be disposed of easily and profitably, since the arriving stocks are moderate. The future condition of the market depends chiefly on the expected out-turn of the new cotton crop and the position of the Home market. On account of the recent lock-outs of the various mills in the Bombay Presidency there may be a good demand for English piecegoods and mill cloths in this market.

Imports of Yarn.—During the early part of 1927 we were on a low basis for raw cotton, the result being that a fair weight of yarn was booked, including a certain quantity of 40's, importations of which count for the past few years had been negligible. Generally speaking, the period under review was healthy from the bazaar point of view.

As regards the coming year, in view of the present price of cotton, we are afraid there will be very little, if any, 40's imported, Japanese and Chinese being much cheaper. We anticipate importations of other qualities will also be less unless of course prices cheapen considerably in the meantime. Our market is by no means over-stocked and one can anticipate fair business, but as stated we do not think the same volume will pass through as the previous year."

Delhi.—A banker writes as follows :—

“ The first six months of the year 1927 were uneventful and for the most part dull. The absence of heavy stocks coupled with higher prices ruling in Manchester were responsible for continued steadiness in values.

In woollens and cheap fancies, French and Italian goods got a firm hold of this market, but in whites and coloured goods Manchester was still unbeaten.

The closing six months of the year saw a revival in the piecegoods trade, and dealers made good profits on their sales.

Stocks of winter goods carried over from last season were low, while arrivals were about 20 per cent. below normal. Demand set in just before the *Pujahs* and by *Dewali* about 60 per cent. of the stocks were cleared with a good return to dealers.

Business in summer goods was difficult owing to the uncertainty of the price of cotton. Sales slackened off after the *Holi* festival owing to the unseasonable weather and the prevalence of plague in the consuming mofussil centres.

A fair amount of forward business in winter goods has been booked, mostly with the Continent, and given a good monsoon, prospects would appear to be favourable.”

Another correspondent writes :—

“ A noteworthy feature of the market has again been the increased demand for Continental goods, chiefly Italian, which, on account of their low price, receive preference. A distinct improvement is noticeable in the quality and design of Indian mill goods, the demand for which steadily increases. Dealers' profits have again been very small.”

Amritsar.—A banking correspondent writes as follows (June 13th, 1928) :—

“ Imports from Manchester during last year consisted principally of White Shirtings, Mulls, Italians, Brocades, Warp Satins and Twills, prices for which fell about 10 to 15 per cent. during the year. During the last two months home prices have advanced by 5 per cent. over those ruling in January and February, but in the absence of a similar rise in local prices fresh business has been considerably restricted. Present stocks have been of late accumulating, presumably owing to heavy imports and poor demand by the agriculturists.

Imports of woollen goods from Bradford, namely rugs, shawls, tweeds, coatings and flannels were considerably smaller than those from the Continent. Imports on the whole, including those from the Continent, were heavier than those effected in 1926. Prices in general witnessed a decline of 15 per cent. with the exception of those for shawlcloth, business in which line was placed at about the figure quoted in 1926. Dealers in rugs made in Italy found it difficult to effect clearances advantageously, and towards the end of the season had to offer their stocks at 5 to 7 per cent. discount. Some considerable stocks are reported to be still lying unsold, and will not be disposed of until next cold weather.

At present home prices for piecegoods are out of parity with those ruling here, but in the opinion of the trade it is anticipated that in consequence of the absence of orders going home, home prices will, in the course of a month or so, fall in line with the local prices when repeat orders will be placed. Local stocks are, however, sufficient to satisfy the demand of the mofussil buyers in the meantime, and should fresh orders to Manchester be delayed for another month, we hope to see stocks go off satisfactorily.”

Cawnpore.—An Exchange banker in Cawnpore writes that :—

“ Although for some years Cawnpore has been losing its importance as a distributing centre in favour of Delhi and Amritsar, business during the past

year has been fairly well maintained. The uncertainty with regard to prices has restricted business and stocks may be said to be moderate. Continental competition has resulted, here as elsewhere, in fewer orders going to Manchester."

General Forecast (June, 1928).—From the market reports quoted above, all of which have been received from reliable authorities, it will be observed that while dealers made good profits on their imports of piece-goods during the first eight months of 1927, trading was considerably restricted during the cold weather of 1927-28 and the hot weather of 1928 owing to the comparatively high level of Manchester prices. An increasing and lucrative business in Japanese and Continental goods was the main feature of this period. Stocks throughout the country are fairly light, and it is anticipated that the arrivals of goods during the next few months will be disposed of without any difficulty. Future prospects depend entirely on the course of Manchester prices which, in turn, hinge upon the out-turn of the new cotton crop. The publication of the first American Bureau report on July 9th, showing an increase in acreage of 11 per cent., brought about a sharp fall in the price of cotton. Importers in India now await the issue of the second report on August 8th, and show no disposition whatever to commit themselves beyond October shipment until the situation becomes clearer. There is a general belief that, before the end of the year, Lancashire prices will be on a very much lower level. It is generally accepted that India cannot afford to buy on any extended scale on the basis of shilling cotton. Should the price of the raw material, however, recede to, say, 8*d.* or even 9*d.* per lb. and cloth prices follow suit, which they probably will if Indian purchases are withheld, there is every likelihood of heavy purchases being made for January-February-March shipment.

The general factors are all favourable. The first official monsoon forecast was issued on June 6th and predicts that the monsoon rainfall is likely to be normal or in excess in the Peninsula and north-west India. This is as favourable a forecast as is ever issued by the Meteorological Department, and it may be anticipated that the rainfall this year will be adequate and that, for the sixth year in succession, India will be blessed with abundant harvests and consequent prosperity to the cultivators.* The political horizon is as clear as it has been for many years. Dealers have regained confidence since the difficult years succeeding the slump. They have now, generally speaking, more capital to invest in piece-goods owing to the profits of the past two years, and are undoubtedly less inclined to speculate and buy in excess of their likely requirements than was the case some years ago. The stabilisation of the rupee also eliminates the speculative element from exchange. One can therefore regard the future with a certain feeling of restrained optimism.

* See footnote on page 20.

Raw Cotton.—The following statement, taken from the Indian Trade Journal, compares the estimates of the total out-turn of cotton in India for the last two years with the sum of exports and internal consumption. The figures of mill consumption are those supplied by the Indian Central Cotton Committee, and refer in the case of mills in British provinces to Indian cotton alone. The estimate of mill consumption in Indian States refers to all cotton, but it is presumed that little foreign cotton has been consumed in Indian States. Import figures have not therefore been taken into consideration for the purposes of the comparison set forth below. A conventional estimate has been made for extra factory or local consumption. It should be borne in mind that estimates of the "Carry-over" from one year to another have not been taken into account owing to complete information not being available regarding stocks:—*

	Year ending 31st August,	
	1927 Thousand bales (400 lb.)	1926 Thousand bales (400 lb.)
Exports to United Kingdom	85	153
„ to Continent (Europe, excluding United Kingdom)	832	1,034
„ to Far East	1,872	2,550
„ to other countries	41	38
Total	2,830	3,775
Home consumption—		
Mills†	2,044	1,983
Extra-factory or local‡	750	750
Total	2,794	2,733
Approximate crop	5,624	6,508
Estimated in forecast... ..	5,003	6,250
Excess (+) or deficit (-) neglecting carry-over	+621	+258

The next statement shows the stocks of cotton held by Indian mills on August 1st, 1927, and on February 1st, 1928 (in bales regardless of weight), and is published by the Bombay Millowners' Association:—

*Stocks of cotton in Bombay were 387,000 bales on 31st August, 1926, and 437,000 bales on 31st August, 1927.

†The figure of mill consumption is that compiled by the Indian Central Cotton Committee, Bombay, on the basis of returns made under the Indian Cotton Cess Act.

‡Conventional estimates.

	Bombay City and Island.		All-India.	
	16-7-27.	1-2-28.	16-7-27.	1-2-28.
<i>Cotton Mill Stocks</i> (in actual bales regardless of weight)—				
(a) American (linters and waste not included)	78,107	16,179	117,234	23,328
(b) East India	144,279	128,034	684,484	531,171
(c) Egyptian	396	345	1,571	810
(d) Sundries	7,857	4,843	22,812	11,145
Total	230,639	149,401	826,101	566,454

Figures extracted from the Cotton Census taken by this Association at the instance of the International Federation of Master Cotton Spinners' and Manufacturers' Associations.

The Bombay Millowners' Association, in their annual report for 1927, state that:—

" The year opened with a steady undertone with Broach April-May at Rs. 254, and showed a more or less steady rise, the gain in January being Rs. 12. This rise continued during February, when for the first time after a long period, towards the close of the month prices rose to over Rs.300. The American markets also showed during these months a similarly steady rise, the March contracts opening at 14·18, gaining about 150 points during the two months. The month of March saw even greater daily fluctuations, the highest and lowest being Rs.310 and Rs.286, following fluctuations in the American markets on reports of expected reduction of acreage for the new crops and the passing of the Farmers' Relief Bill by the American Senate and its vetoing by the President. In the month of April there were two conflicting factors which were responsible for the very wide fluctuations in the market—excessive floods in America and a financial crisis in Japan. The range in local prices during the month was Rs.274-8 to Rs.310-8, the tone of the market towards the end of the month being very strong.

Business in 1928 Broach was allowed from 2nd May, prices opening at a premium of Rs.11 over old crop contracts for May delivery, which were quoted at Rs.300 July-August, being then quoted at Rs.305. The advance in prices continued practically throughout the month, the closing being very nearly the highest for the month. The continued rise was entirely due to reports of unfavourable weather and increased boll-weevil infestation, and was checked when in the beginning of June, better weather reports were circulated. The month of June saw some wide fluctuations both here and in America, although at the close of the month prices were at the same level as at the beginning. But about the middle of July prices rose rapidly, January contracts being quoted in America at about 19½ cents, a rise of nearly 200 points, the highest price reached here being Rs.394-4 for April-May, 1928, Broach contracts, a gain of about Rs.50 in the month. From this high level, on publication of Hester's carry-over figures and indications of a crop of about 15 million bales, prices heavily reacted, losing in less than a week more than 225 points in America, with a similar but smaller decline in the local market. The publication of the first Bureau report indicating a crop of 13½ million bales only sent the prices up, soaring before another week was over to the 20 cent level, and a regular Bull fever appeared to take possession of the market following reports of bad weather, and the publication of the second Bureau report confirming the deterioration in crop and giving an estimate of 12,692,000 bales sent prices up, January contracts nearly touching 24½ cents and the local market

registering Rs.490 in the late hours of the 8th September. A crop estimate of 12½ million bales was regarded as very bullish, and yet, curiously enough, the rapid rise in prices seemed to have sapped the vitality of the market, for from this point onwards, the market continued to sag heavily with intermediate rises which could not be maintained. In the short space of a fortnight, between 8th and 23rd September, prices showed a net decline of about 4½ cents. From thence onwards with crop prospects practically remaining the same, the market was very unsettled with frequent and large rises and falls, but always in the nett result showing a decline in prices. Fluctuations were also wide, the difference between the highest and lowest prices in New York on the same day being more than 100 points at times, and differences of 50 points being frequent. The local market did not show quite the same heavy variations. The second lowest prices for the year were reached in New York on the 13th December, when January was quoted at 17.90 cents and here on the 14th instant when Broach was sold at Rs.357-8. The second half of December saw a hardening of prices, and the markets closed with a steady tone with New York January at 19.58 cents and Broach at Rs.386-8."

The following table shows the imports of raw cotton into India during the past two years :—

Countries of consignment.	1926-27		1927-28	
	Tons.	Rs. (lakhs).	Tons.	Rs. (lakhs).
United Kingdom	5,003	45	661	8
Persia	1,136	12	1,067	10
Egypt	262	3	559	8
Kenya Colony	12,681	2,12	13,067	2,01
Tanganyika	780	13	280	5
United States	25,039	2,11	49,662	4,35
Total imports (all sources) ...	45,676	5,03	65,814	6,72

The phenomenal advance in the imports of American cotton is due to the reduction in the margin between the price levels of American and Indian cotton until, at the end of 1926, it was entirely eliminated with the result that the Indian mills purchased unprecedentedly large quantities of the American staple at very low prices, which materially helped them during a difficult year. The imports from the United Kingdom represent American cotton shipped from Liverpool. It is interesting to note that this trade has declined now that direct connections between Bombay and New York have been established.

Cotton Sewing Thread.—The imports were as follows :—

Countries of origin.	1926-27		1927-28	
	lbs.	Rs. (lakhs).	lbs.	Rs. (lakhs).
United Kingdom	1,711,226	66	1,940,565	67
Other countries	346,145	8	426,134	10
Total imports	2,057,371	74	2,366,699	77

The imports from other countries were drawn from Austria, Holland and Belgium, the two last probably representing German sewing cottons shipped from Rotterdam and Antwerp.

Artificial Silk.—Yarns.—The imports of artificial silk yarns are increasing at a very rapid rate :—

Principal countries of consignment.	1926-27		1927-28	
	lbs.	Rs. (lakhs).	lbs.	Rs. (lakhs).
United Kingdom	654,617	14	2,277,315	47
Germany	232,079	4	130,739	3
Netherlands	358,287	7	505,900	11
Switzerland	428,051	8	283,288	6
Italy	3,843,179	64	3,431,879	66
Other countries	259,884	5	880,448	16
Total	5,776,097	1,02	7,509,569	1,49

The extraordinarily rapid advance in the imports of Indian yarns appears to have been checked and, as I forecasted in my last report, the year under review gives a more correct indication of the position as the large stocks of Continental yarn have been disposed of and the Indian mills are now consuming greatly increased quantities of artificial silk yarns of the higher grades, in which the United Kingdom specialises, for use as warps in mixture cloths. Moreover, the activities of the local branch in India of the leading British producer are making themselves felt.

Hitherto most of the yarns imported have been used by the handloom weavers in northern India and Madras, who are usually indifferent to quality and whose main desideratum is low price. This accounts for the large consumption of cheap Italian and other Continental yarns. Indian millowners, however, are now taking a keen interest in the production of cotton and artificial silk mixtures, and as they are much more particular with regard to quality, it is expected that the share of the British product will continue to increase. The rapid extension in the number of British factories producing artificial silk yarns will also be a further favourable factor.

The very great increase in the imports of artificial silk yarns has also been stimulated by the passing in September, 1927, of the Indian Tariff (Amendment) Bill, which reduced, *inter alia*, the import duty on artificial silk yarns from 15 per cent. to 17½ per cent. *ad valorem*. In speaking to this Bill, Sir George Rainy explained the objects of the Government of India in the following terms :—

“ So far as India is concerned, we are chiefly concerned with mixed goods made partly from artificial silk and partly from cotton. The imports of these piecegoods have increased very rapidly, and between the years 1924-25 and

1926-27 they more than doubled. At present both the mixed piecegoods, made partly of artificial silk and partly of cotton and the artificial silk yarn that is imported into this country are dutiable at 15 per cent. Both the cotton mills in Bombay and elsewhere and also some of the handloom weavers, particularly in Southern India, have begun to manufacture these piecegoods, made of a combination of cotton and of artificial silk, and the manufacturer has to pay on the artificial silk yarn that he uses the same rate of duty as is imposed on the imported fabrics which compete with what he makes. All that is proposed in the Bill is to reduce the duty on the artificial silk yarn from 15 to 7½ per cent. so that the manufacturer in this country, whether he be a handloom weaver or whether it be a cotton mill, will have a definite advantage in competing with imported piecegoods."

Piecegoods of Cotton and Artificial Silk.—

Principal countries of consignment.	1926-27		1927-28	
	yds.	Rs. (lakhs).	yds.	Rs. (lakhs).
United Kingdom	16,078,929	1,17	14,262,832	99
Germany	2,487,541	27	4,694,815	53
Belgium	979,974	8	757,177	7
Switzerland	6,697,960	59	11,054,793	89
Italy	13,900,507	81	16,021,907	91
Other countries	1,833,363	17	6,349,267	47
Total	41,978,274	3,09	53,140,791	3,86

The reduction of the British proportion of the values imported to 25 per cent. is disappointing. As I stated last year, there would appear to be two distinct classes of consumers of artificial silk piece-goods in India. The great majority have limited means, and do not trouble much about quality. They are attracted by lustre and bright colours and by the relatively low price of the Continental products. The remainder, who, unfortunately, are much less numerous, take quality into consideration and are willing and able to pay the higher rates charged. The greater proportion of the goods imported are sold on price and price alone, which accounts for the increasing imports from Italy and Switzerland which are, generally speaking, sold at a much lower price than the British products.

There appears to be no reason why British manufacturers should not be able to obtain a much larger share of the business if only they can bring down their prices. The British product is acknowledged to be superior, but this fact is not fully realised by the average Indian buyer. The trade is so new that he neither knows nor cares in which country the material is manufactured, but if it is cheap and made up in attractive designs and colours, he will buy. Some of the small shopkeepers assert that they frequently have Continental artificial silk cloths brought back to them after a few days' wear, with the complaint that the colours are not fast in water. This, of course, militates against the development of

the trade. A systematic and energetic propaganda in favour of British artificial silk goods of quality would do much to allay this prejudice.

The trade is likely to be a rapidly expanding one, and will help to redress the balance caused by reduced imports of the coarser cotton goods. It is to be hoped that British manufacturers and shippers will realise the significance of this, and that they will leave no stone unturned in their efforts to secure a much larger share of the trade.

Exhaustive reports on the market have been made by H.M. Trade Commissioners at Calcutta and Bombay, which are available to bona fide British firms on application to the Department of Overseas Trade.

Flax Manufactures.—The main types imported were as follows :—

Description.	1926-27	1927-28
	Rs. (lakhs).	Rs. (lakhs).
Twist and yarn	—	—
Canvas	17	21
Piecegoods	4	4
Sewing thread	2	2
Other sorts, including bags and sacks	8	10
Total imports	31	37

Details of the origin of the imports in 1927-28 are not yet available. In 1926-27 the United Kingdom supplied more than 95 per cent. of the whole trade, the balance comprising Rs.29,000 of flax canvas from Italy, Rs.20,000 of miscellaneous flax manufactures from Germany and Rs.17,000 from Japan.

Jute Manufactures.—There was a further noteworthy reduction in the imports under this heading during the period under review. The figures are as follows :—

Countries of consignment.	1926-27	1927-28
	Rs. (lakhs).	Rs. (lakhs).
United Kingdom	10	5
Ceylon	14	17
Other countries	16	2
Total imports	40	24

The United Kingdom in 1926-27 supplied practically the whole of the jute canvas imported. Of gunny bags, apart from Rs.2 lakhs worth from the United Kingdom, the balance consisted almost entirely of second-hand bags re-exported from Australia and transhipped at Colombo, thereby appearing in the returns as an import from Ceylon. The United Kingdom supplied 20 per cent. of the gunny cloth, the remainder being drawn from Japan, Germany, Italy, Belgium and Holland.

Silk Manufactures.—The total imports of raw silk and silk manufactures aggregate over 5 crores in value. The imports of the various types were as follows :—

Description.	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
Raw silk	1,14	1,45
Silk yarns, noils and warps	63	60
Goods of silk mixed with other materials	31	35
Silk piecegoods	2,43	2,58
Sewing thread	2	2
Other kinds	6	6
Total imports	4,59	5,06

China supplies almost the whole of the raw silk imported. Of the yarns, noils and warps, Italy contributed 33 per cent., China 27 per cent. and Switzerland 17 per cent. The United Kingdom supplied a negligible quantity. Silk mixtures were obtained from Japan (38 per cent.), Germany (19 per cent.), France (16 per cent.) and the United Kingdom (9 per cent.). Silk piece-goods are almost entirely drawn from China and Japan.

The United Kingdom supplied nearly 50 per cent. of the small value of sewing silk imported, her principal competitor being Japan, with Italy a poor second. Bombay is the principal port of entry for all silks, but considerable quantities of silk piece-goods enter Burma through Rangoon.

Woollen Manufactures.—The various types imported were as follows :—

Description.	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
Yarns and knitting wool	28	34
Blankets	11	9
Braids	—	1
Carpets and rugs	39	57
Hosiery	19	20
Piecegoods	2,77	3,28
Shawls	37	39
Other sorts... ..	3	3
Total imports	4,14	4,91

As usual, the principal ports of entry for woollen manufactures were Bombay for distribution throughout the United Provinces, Rajputana and north-western India generally; and Karachi, which is the *entrepôt* for Afghanistan, Baluchistan, the Punjab and the north-west Frontier Province. The Calcutta market is steadily increasing in importance, while Rangoon maintains its position as the distributing centre for the Shan States and Yunnan.

Woollen Piece-goods.—After a slight setback in 1926-27 the total trade increased materially both in yardage and value. The subjoined table gives the origin of the imports :—

Principal countries of consignment.	1926-27		1927-28	
	yds.	Rs. (lakhs).	yds.	Rs. (lakhs).
United Kingdom	5,982,568	1,42	7,125,281	1,62
Germany	1,393,087	30	1,564,376	36
Netherlands	172,748	6	268,158	9
Belgium	726,863	14	431,340	8
France	2,237,092	37	4,417,311	61
Italy	3,575,199	35	3,371,715	37
Japan	1,230,361	10	1,414,022	11
Other countries	107,103	3	184,652	4
Total imports ...	15,425,021	2,77	18,776,855	3,28

The fluctuation in the prices of woollen piece-goods are shown in the declared values per yard during the months of March, 1926, 1927 and 1928, which were Rs.2-4-4, Rs.2-6-11 and Rs.1-14-10 respectively. As I stated last year, the post-war rise in the price of woollen goods has resulted in the substitution of the cheaper French, Italian and German cloths for the higher grade British qualities. Continental competition has been very keen during the year and the principal markets are being actively canvassed by an increasing number of foreign commercial travellers, who appear to concentrate their attentions on Indian importers, closely study their psychology and prejudices, and leave no stone unturned in their efforts to supply cloths which, although frequently lower in quality, are suitable for the purpose for which they are intended and come in at a lower price.

Woollen Shawls.—It is interesting to note that although the shawl trade has almost attained the pre-war aggregate in value, the number is still nearly 600,000 in defect. This tends to show that the market is capable of absorbing a definite value each year, and when prices rise the quantities imported are reduced. The latest figures are as follows :—

Countries of consignment.	1926-27		1917-28	
	Number.	Rs. (lakhs).	Number.	Rs. (lakhs).
United Kingdom	172,805	7	175,497	6
Germany	360,754	18	480,060	23
Other countries	445,932	12	433,382	10
Total imports ...	979,491	37	1,088,939	39

The British shipments have remained practically stationary during the past three years, while Germany is rapidly regaining her pre-war predominance. The competition from other countries is mainly that of Italy.

Carpets and Rugs.—There has been a continuous expansion in the total imports during the past three years :—

Principal countries of consignment.	1926-27	1927-28
	Rs. (lakhs).	Rs. (lakhs).
United Kingdom	11	9
Italy	22	41
Persia	3	2
Other countries	3	5
Total imports	39	57

The Italian trade in cheap printed tapestry rugs is increasing rapidly.

Machinery and Millwork.—One of the most encouraging features of the past year is the increase of 2½ crores in the imports of machinery. This followed a long period of depression extending over five years. The increase was well-spread over almost all types of machinery and clearly shows that the tide in Indian industries has at last turned. In my last report I stated that the low water mark appeared to have been reached and that I looked forward to an improvement in the future. Once more it is possible to sound an optimistic note and to state with some degree of confidence that the improvement is likely to be more than maintained. While it is true that the great Indian cotton industry recovers very slowly, there is a marked improvement in the jute and other textile industries, while the steel and engineering industries appear to be at the beginning of a period of considerable expansion. The numerous projects, both under construction and projected, for the supply of electrical and steam power are a fairly sure criterion of industrial development in the near future. Moreover, the important Government programmes for railway, irrigation and public works schemes, most of which are outlined in Chapter IV, are bound to result in heavy imports of plant of all kinds. The following table shows the origin of the imports during the past two years :—

Countries of consignment.	1926-27	1927-28
	Rs. (lakhs).	Rs. (lakhs).
United Kingdom	10,66	12,53
Germany	94	1,05
Belgium	25	29
Japan	3	2
United States	1,39	1,57
Other countries	36	47
Total imports	13,63	15,93

The next table shows the relative importance of the three principal suppliers before the war and during the past two years :—

Principal countries of consignment.	1913-14	1926-27	1927-28
	Per cent.	Per cent.	Per cent.
United Kingdom	90	78·2	78·5
United States	3	10·2	10·1
Germany	6	7·0	6·7
Other countries	1	4·6	4·7
	100·0	100·0	100·0

It is most satisfactory to record that British machinery exporters secured the greater share of the increased trade and improved their relative position to 78·5 per cent. of the total. This is mainly due to a phenomenal increase in the imports of British boilers amounting to no less than 45 lakhs, and to greatly increased imports of British mining machinery, oil crushing and refining machinery, jute and cotton manufacturing plant and tea machinery. German competition in industrial plant of all kinds is becoming more insistent. The principal German makers of electrical plant now maintain their own branches in India while German exporters of prime movers, mining machinery, rice milling and oil crushing plant are strongly represented by technical agents. As I have frequently stated, there will always be a demand from Indian sources for cheap plant where low first cost rather than quality and efficiency is the desideratum. This will probably be more and more supplied by our competitors. The British machinery manufacturer, however, enjoys a very high reputation in the market, his selling and technical organisation in the country is second to none, and I look forward to his being able to maintain his position and to meet the increasing competition provided that he is prepared to follow the changes in conditions by adaptability in design, by increased technical service on the spot and by closely studying the precise requirements of the market.

The following brief analysis of the principal types of machinery imported will be of interest :—

Textile Machinery.

	1925-26	1926-27	1927-28
	Rs. (lakhs).	Rs. (lakhs).	Rs. (lakhs).
Cotton spinning machinery	1,21	80	1,01
„ weaving machinery	64	60	72
„ bleaching and dyeing machinery	4	3	5
„ printing machinery	(a)	(a)	(a)
Other sorts	46	27	19
Total	<u>2,35</u>	<u>1,70</u>	<u>1,97</u>

(a) Less than 1 lakh.

Lancashire textile machinists secured 94 per cent. of the trade, the balance consisting of certain American, German, Polish and

Dutch specialities such as patent winders, cotton waste spinning machinery, beaming machines and low grade dobbies.

Woollen Manufacturing Machinery.—There has been a lull in this trade, as the few existing plants are well-equipped and no new machinery has been laid down. The figures of total imports were :—

1925-26	1926-27	1927-28
Rs. 2 lakhs.	Rs. 4 lakhs.	Rs. 1½ lakhs.

Jute Manufacturing Machinery.—The imports during the past three years have been as follows :—

	1925-26	1926-27	1927-28
Rs. lakhs ...	82	65	94

The trade is almost entirely in British hands.

Electrical Machinery.—The following were the main types of electrical plant imported during the year :—

	1926-27	1927-28
	Rs. (lakhs).	Rs. (lakhs).
Control and switchgear	32	36
Generators, alternators and dynamos ...	49	38
Motors	29	35
Transformers	23	12
Turbo-generating sets	8	2
Other sorts... ..	88	77
	<u>2,29</u>	<u>2,00</u>

Although there has been a temporary reduction in the total trade during the past year, the demand during the next few years is likely to expand owing to the number of power schemes both from water and coal, which are under construction or projected. The important projects for railway electrification in Bombay, Bengal and Madras are likely to provide an outlet for large quantities of plant.

The provenance of the imports was as follows :—

Countries of consignment.	1925-26	1926-27	1927-28
	Rs. (lakhs).	Rs. (lakhs).	Rs. (lakhs).
United Kingdom... ..	1,84	1,86	1,66
Germany	9	11	9
U.S.A.	20	23	15
Other countries	9	9	10
Total	<u>2,22</u>	<u>2,29</u>	<u>2,00</u>

It is satisfactory to note that the British position is fairly well maintained in spite of the keenest competition from American and German makers. Prices were closely cut and most of the orders for large power plants were taken at prices which show little if any profit.

Boilers.—The imports were as follows :—

Countries of consignment.	1925-26 Rs. (lakhs).	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
United Kingdom... ..	87	59	1,04
Germany	6	1	1
Other countries	5	2	4
Total	98	62	1,09

The revival in Indian industries is clearly shown in the enhanced imports of boilers of all kinds. Foreign competition has hitherto been negligible largely owing to the powerful local organisation of the British manufacturers.

Prime Movers (other than Electrical).—The total imports were classified as follows :—

	1926-27 Rupees.	1927-28 Rupees.
<i>Locomotives—excluding those for Railways—</i>		
Oil engines	1,96,122	3,22,741
Oil engines (parts of)	54,522	85,439
Steam engines	27,87,974	16,17,940
Steam engines (parts of)	7,23,278	8,01,362
Others... ..	1,27,273	91,243
<i>Other than Locomotives—</i>		
Gas engines	2,09,550	2,27,012
Gas engines (parts of)	1,01,309	76,789
Oil engines	96,29,418	94,61,416
Oil engines, (parts of)	15,78,801	18,95,014
Steam engines	27,51,017	33,18,949
Steam engines (parts of)	15,60,929	28,13,599
Others... ..	1,04,822	91,998
Total	1,98,25,015	2,08,03,502

Details of the provenance of the imports in 1927-28 are not yet available, but it is safe to say that British makers control 90 per cent. of the trade. The post-war years have shown a steady expansion in the demand for oil engines, which are largely displacing steam and gas engines for many industrial purposes. Germany, Sweden and Italy compete to a slight extent in oil engines, but in steam engines British makers control the market.

Agricultural Machinery.—This trade has remained practically stationary for the past three years, as the following figures show :—

	1925-26 Rupees.	1926-27 Rupees.	1927-28 Rupees.
Agricultural tractors and parts	4,26,675	3,35,604	5,47,559
Ploughs and parts	1,72,045	3,00,297	1,78,924
Other sorts	5,92,527	4,88,599	4,68,739
Total imports	11,91,247	11,24,500	11,95,222

In 1926-27 the United States supplied 57 per cent. of the tractors and parts, the United Kingdom contributing 25 per cent., Canada 9 per cent. and Germany 3 per cent. Of the ploughs and parts the United Kingdom supplied 45 per cent. and the United States 19 per cent. Canada in that year sent Rs.5,508 worth. In miscellaneous types of agricultural machinery, however, the United Kingdom shipped 91 per cent. and the United States 5 per cent.

The Indian market for imported agricultural machinery and implements of modern types is most disappointing, and it is difficult to see any material improvement in the near future. As I stated last year, the only solution of the problem would appear to be the extension of the activities of Government agricultural departments in the stocking and distribution of improved implements. To effect this greatly increased grants of funds will have to be made to them and a considerable increase of staff will be entailed. It is hoped that the recommendations of the Indian Agricultural Commission, whose report is now available, will expedite a solution of the problem, which is one of the most pressing agricultural questions of the day.

Mining Machinery.—

Countries of consignment.	1925-26 Rs. (lakhs).	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
United Kingdom... ..	51	37	67
Germany	7	15	23
Belgium	21	15	14
U.S.A.	44	30	45
Other countries	1	—	1
Total	1,24	97	1,50

The recovery in the British position is satisfactory. The United States still competes in coal-cutting machinery, but British suppliers of colliery plant supply 65 per cent. of the trade. American and German competition is most severely felt in the plant required for the oil fields and for the miscellaneous mining industry in Burma.

*Metal Working Machinery (including Machine Tools).—*The trade recovered slightly during the year :—

	1925-26	1926-27	1927-28
Rupees ...	44,00,338	37,48,096	40,79,454

This comprehensive classification consists mainly of machine tools. Figures for 1927-28 are not yet available, but in 1926-27 the United Kingdom supplied 73 per cent., the United States 17 per cent. and Germany 6 per cent. The British machine tool groups are strongly organised and should be able to maintain their hold on the trade.

Oil Crushing and Refining Machinery.—The following are the latest figures :—

Country of origin.	1925-26 Rs. (lakhs).	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
United Kingdom	11	22	56
Germany	5	6	8
United States	5	3	4
Other countries	(a)	2	2
Total	21	33	70

(a) Less than 1 lakh.

Bengal is the principal market, but there is also a steady trade with Burma.

Paper Mill Machinery.—There has been a considerable improvement during the past year owing to the emergence of the industry from a period of severe depression :—

Rupees ...	1925-26	1926-27	1927-28
	3,36,029	6,69,485	9,43,165

In 1926-27 the United Kingdom supplied 94 per cent., Germany, the United States and Austria sending small quantities. There is likely to be a considerable increase in the coming year as British contractors have secured the plant for the important new paper mill of the Punjab Pulp & Paper Co., Ltd., at Jagadri.

Refrigerating Machinery.—The total imports expand steadily :—

Rupees ...	1925-26	1926-27	1927-28
	8,31,507	11,70,738	11,99,131

In 1926-27 the United Kingdom supplied 44 per cent., the United States 43 per cent. and Germany 6 per cent.

Rice and Flour Mill Machinery.—There was a slight setback in the total imports last year :—

Countries of consignment.	1925-26 Rs. (lakhs).	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
United Kingdom	8	11	6
Germany	10	12	13
United States	5	4	3
Other countries	1	1	1
Total	24	28	23

Germany is steadily strengthening her hold on the market for small rice milling plants in Burma and Bengal. There have not been any large rice or flour mills constructed during the period.

Sawmill and Woodworking Machinery.—

Countries of consignment:	1925-26 Rs. (lakhs).	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
United Kingdom	6	7	7
Other countries	2	2	1
Total	8	9	8

The principal competition is from the United States in saw-milling plants and from Germany in woodworking machinery. Thanks to efficient representation by experts attached to influential agents, the leading British firms manage to retain their position.

*Sewing and Knitting Machines (including Parts).—*The steady expansion in this valuable trade goes on from year to year in the face of all conditions and is likely to continue *pari passu* with the increase in the purchasing power of the people.

The total imports including parts and accessories were :—

	1925-26	1926-27	1927-28
Rupees	79,92,019	87,65,147	91,54,238

In 1926-27 the United Kingdom supplied 81 per cent. and Germany 15 per cent. The Singer Sewing Machine Company, who largely dominate the market, thanks to their efficient and widespread organisation, obtain their supplies from their Clyde bank factory at Kilbowie. German competition is steadily increasing.

Sugar Machinery.—

Countries of Consignment.	1925-26 Rs. (lakhs).	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
United Kingdom	12	5	7
Other countries	4	1	2
Total	16	6	9

The imports of sugar manufacturing plant are likely to be greater during the coming year in view of two or three substantial plants which are under erection. Germany is the principal competitor, but British makers retain their hold on the business.

Tea Machinery.—There has been a satisfactory expansion during the past year and the demand from the gardens has been well maintained. The plant hitherto used has been exclusively British. The figures are as follows :—

	1925-26	1926-27	1927-28
Rupees	38,58,503	26,28,099	36,06,477

Typewriters.—The trade continues to expand and the outlook is promising :—

Year.	Number of machines.	Value (Rupees).
1925-26	10,947	16,06,962
1926-27	13,790	22,06,090
1927-28	16,952	25,05,241

Until the last two years this trade was a virtual monopoly of the United States owing to the efficient organisation of the American companies. British manufacturers are now paying more attention to the potentialities of India, but much more attention will have to be given to local organisation before serious headway can be made. The British machines are good, their prices are competitive, but very much more needs to be done in extending service organisations. The manufacturers should realise that, in order to compete successfully with the American organisation, they must give personal attention to the building up of an equally efficient distributing sales and service organisation in India.

Other Sorts of Machinery.—This comprehensive heading includes all types of machinery and plant not specially classified in the customs returns. The total values were as follows :—

	1925-26	1926-27	1927-28
Rupees ...	2,25,40,399	2,36,35,366	2,74,37,908

Details of the provenance of the imports last year are not yet available, but in 1926-27 the United Kingdom supplied 73 per cent., the United States 13 per cent. and Germany nearly 7 per cent. The rapid expansion of the imports of miscellaneous industrial plant from Germany has been extraordinary.

Iron and Steel.—Perhaps the most hopeful feature of the year has been the heavy advance in the total quantity of iron and steel imported into India from 845,000 tons in 1926-27 to 1,197,261 tons in the year under review. While it is true that the previous year included the coal stoppage in the United Kingdom and consequently local stocks of imported material had run very low, the recovery in the import trade, coinciding as it did with a record production from the Tata Iron & Steel Works of 363,195 tons of finished steel, shows that the Indian consumption of steel is capable of very great expansion. In the opinion of those competent to judge this extension in the demand for steel of all kinds will absorb not only the rapidly increasing production of the Tata Steel Works but will also result in a steadily increasing demand for imported steel, in which British steel masters should be able to improve their position.

The Committee of the Calcutta Import Trade Association, in their report for 1927, state that :—

“ The new customs duties, which give a preference to British manufactured material, came into force on April 1st. It resulted in users being able to purchase British Standard Specification material almost Rs.20/- per ton lower and consequently imports have increased.

British manufacturers' rates, which rose at the end of 1926 after the settlement of the coal strike, have remained fairly steady all through the year at prices slightly higher than those ruling in 1926. Plate makers in particular were able to maintain prices due to the recovery in the ship-building industry, which kept them with full order-books.

Prices for Continental manufactured material steadily declined throughout the year, the difference between prices at the beginning and end of the year, in some instances, being as much as £1 per ton. It should, however, be remembered that the Continent were able to increase their quotations considerably during the latter half of 1926 because of the stoppage in England.

The galvanised corrugated sheet market has experienced an almost unprecedented bad time. The trouble commenced as early as July, when British maker's prices dropped almost 7 per cent. immediately after the majority of importers and dealers had made their contracts for their total requirements for the year. Although this was a serious matter in itself, difficulties could have been overcome had not the market considerably over-bought. Records show imports into Calcutta in 1927 to be 195,317 tons, which is undoubtedly a much higher tonnage than the market can consume. Imports in 1926 amounted to 179,343 tons, which figure was 45 per cent. higher than 1925 and 100 per cent. higher than 1924. The result was that dealers could not take up their commitments and banks have carried a very large tonnage. The drop in makers' rates between the beginning and end of the year amounted to 16 per cent."

Production and Development of the Tata Iron and Steel Works.—I am indebted to the Tata Iron & Steel Co., Ltd., for the following authoritative statement of the production at Jamshedpur, together with notes on the development of the plant during the year ended 31st March, 1928:—

Production of Pig Iron—

The number of furnaces in existence on 31-3-28	...	...	...	...	...	...	5
							Tons.
Pig iron production	...	...	...	...	...	...	644,296
Pig iron used in works	...	...	...	...	...	...	575,204
Ferro manganese produced for works use	...	...	...	...	...	...	7,664

Furnaces and Converters—

							No. in existence on 31-3-28
Bessemer converters, acid	...	...	...	...	...	...	3
Open hearth furnaces	9

No. built during the year 1927-28

Bessemer converter, acid	1
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No. in course of erection.

Open hearth furnace	1
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Production of Ingots.

							Tons.
Open hearth, basic	251,618
Duplex	347,947

No. in existence on 31-3-28.

Rolling Mills—

							No. in existence on 31-3-28.
Cogging mills	...	...	...	...	...	...	2
Rail mills	...	...	...	...	...	...	2
Plate mills	...	...	...	...	...	...	1
Section, bar and merchant mills	...	...	...	...	...	...	4
Sheet mills	...	...	...	...	...	...	9

<i>Production of Semi-finished Steel—</i>						Tons.
Blooming mill production	...	...	...	...	...	511,026
<i>Sheet bar and billet mill production—</i>						
(1) Billets	...	...	...	} Rolled from blooms of Blooming Mill shown above	}	70,371
(2) Sheet bars and sleeper bars	...	...	...			42,108
(3) Tinplate bars and flat bars of sheet bar and billet mills	...	...	...			64,688
Billets received from other works for re-rolling	...	...	...	...	...	22,318
<i>Production of Finished Steel—</i>						
Rails 50 lbs. and over	...	...	...	...	...	173,773
„ 30 lbs. and under	...	...	...	...	...	2,949
Fishplates	...	...	...	...	...	7,208
Sleepers	...	...	...	...	...	4,399
Angles, channels and tees	...	...	...	...	...	33,461
Beams	...	...	...	...	...	19,108
Rounds, squares, flats, octagons, tiebars	...	...	...	...	...	68,899
Steel plates $\frac{3}{16}$ in. thick and over	...	...	...	...	...	25,921
Sheets $\frac{1}{16}$ in. and under, other than sheets for galvanising	...	...	...	...	...	18,970
Galvanised sheets	...	...	...	...	...	8,507
						363,195

The Directors of the Company have, during the year, sanctioned a scheme for further extensions and completion of the plant. The programme, which is estimated to cost about Rs.3 crores and will take several years to complete, mainly consists of a third Duplex tilting furnace, a fourth battery of coke ovens, a benzol recovery plant, improvements to the open hearth furnaces, gas producers, enlargement of blast furnaces, four new turbo blowers, new boiler plant, one 18,000 kw. generator, rolling stock, cranes, soaking pits, a hoop and strip mill, a roughing mill and various improvements all over the plant.

This programme, when completed, is expected to increase the production to approximately 900,000 tons of pig and over 600,000 tons of finished steel.

Coke Ovens.—At the Koppers battery, a Phillipson dryer, and at the Wilputte a Walton dryer have been erected for the drying of the sulphate of ammonia.

Blast Furnaces.—“C” furnace has been relined with an enlarged hearth, etc., and thus the capacity has been increased from 550 tons to 750 tons a day with the present blowing equipment. New burners have been fitted to the stoves (and also to the stoves of “D” furnace), and a gas washer has been added to wash the gas for the boilers.

Open Hearth.—No. 6 Furnace has been reconstructed similar to No. 7. New gas producers have been installed and better gas generating practice together with more efficient burning is making improvements in fuel economy and increased production.

Duplex Plant.—The foundation of the third Duplex plant and gas producers for No. 3 Furnace is nearing completion and it is hoped to have this furnace ready by the end of the year. No. 3 converter has been erected, and has been in operation since February, 1928.

Labour Troubles at Jamshedpur.—The last few months have witnessed the outbreak of serious labour troubles at the steel

works culminating in the closing of the works on June 1st, 1928. The publication by the Steel Company in April of a bonus scheme on output, amounting to Rs.10 lakhs a year, failed to satisfy a section of the workers, who contrived by sectional strikes, lightning "hartels," &c., to render impossible the efficient operation of the works. The Steel Company published at the end of June, 1928, the terms on which they were prepared to open the works. These terms include the payment of the bonus and a complete investigation into existing rates of pay, but insist upon the reduction of the staff by 25 per cent. The stoppage will probably be a fairly lengthy one,* but it is generally realised that the economies resulting from the reduction of surplus labour will leave the Steel Company in a stronger position to proceed with their programme of development and increased output. Meanwhile, it is probable that British suppliers of railway rails and structural sections will secure a temporary advantage in providing the immediate requirements of the market.

Origin of the Imports of Iron and Steel.—The following statement shows the chief sources of supply of iron and steel with the percentage share of each country in the import trade :—

* The strike ended on September 13th.

	United Kingdom.		Germany.		Belgium.		France.		United States.		Other countries.		Total.
	Tons. (1,000)	Share. per cent.	Tons. (1,000)	Share. per cent.	Tons. (1,000)	Share. per cent.	Tons. (1,000)	Share. per cent.	Tons. (1,000)	Share. per cent.	Tons. (1,000)	Share. per cent.		Tons. (1,000)
1913-14 ...	609	59.8	200	19.6	173	17.0	2	.1	22	2.2	12	1.3	1,018
1919-20 ...	269	63.0	1	.2	13	3.1	—	—	135	31.6	9	2.1	427
1920-21 ...	498	70.0	15	2.1	69	9.7	2	.3	113	15.9	15	2.0	712
1921-22 ...	280	45.7	60	9.8	160	26.1	9	1.5	84	13.7	20	3.2	613
1922-23 ...	359	48.1	90	12.1	229	30.7	7	1.0	38	5.1	23	3.0	746
1923-24 ...	429	56.7	61	8.0	217	28.7	5	.5	18	2.4	26	3.7	756
1924-25 ...	439	50.5	88	10.1	273	31.4	16	1.8	17	2.0	36	4.2	869
1925-26 ...	489	55.3	69	7.8	229	25.9	45	5.1	23	2.6	29	3.3	884
1926-27 ...	406	48.1	79	9.3	257	30.4	33	3.9	29	3.4	41	4.9	845
1927-28 ...	685	57.2	79	6.6	316	26.4	48	4.0	16	1.4	53	4.4	1,197

It is most satisfactory to note that the British share has advanced to within 3 per cent. of the figure for 1913-14. The increased import of 280,000 tons of British steel is primarily due to the replenishment of local stocks depleted owing to the British coal stoppage of 1926 and to the boom in the demand for galvanised sheets, which represented last year 43 per cent. of the total United Kingdom shipments of steel. The advantage accruing from the lower rate of import duty on British standard steel is considerable and in many cases ensures the placement of orders for bridge work and structural sections with British works instead of on the Continent.

It will be convenient to show the principal headings under which competition was encountered during the past year :—

Description.	From the U.K.	From U.S.A.	From Belgium.	From Germany.	Total Imports.
	Tons.	Tons.	Tons.	Tons.	Tons.
Steel bars (other than cast steel)	23,015	*	110,600	14,263	181,075
Beams, girders, pillars and bridgework	63,274	121	58,809	3,072	144,368
Nuts and bolts	3,796	248	3,483	1,353	10,265
Hoops and strips	15,178	18	10,397	4,391	33,011
Nails, rivets and washers	6,627	*	4,757	1,518	18,562
Cast pipes and fittings	6,433	*	*	*	15,672
Galvanised sheets and plates... ..	297,686	4,330	*	*	331,504
Tinned plates	17,420	7,393	*	*	24,949
Plates not galvanised or tinned	44,396	150	30,566	949	79,738
Wrought tubes, pipes and fittings	28,583	1,230	7,086	7,227	46,980
Wire nails	329	*	6,671	2,266	13,433
Wire rope	3,910	48	*	*	4,240

*Not separately distinguished.

Belgian competition is very keen in bars, plates and structural sections where British standard specification is not insisted on. Belgian and German steel dominates the bazaar trade, although Tata steel is strengthening its hold. American competition is not serious except in tinned plates, and even in this item the relative British position is improved. Luxemburg shipped over 22,000 tons of steel bars, while Sweden and Norway supplied considerable quantities of nails, rivets and washers.

The following brief comments under each heading analyse the position in 1927-28, as compared with the figures for the previous year :—

Bars (other than Cast Steel).—As might be expected in view of the fact that last year's figures covered the period of the coal stoppage the total imports rose from 151,000 tons to 181,000 tons, and the value from Rs.148 to

Rs. 183 lakhs. The British share advanced from 8,000 tons (Rs.13 lakhs) to 23,000 tons (Rs.36 lakhs). Belgian shipments rose from 89,000 tons (Rs.84 lakhs) to 110,000 tons (Rs.103 lakhs). Luxemburg also increased her share from 16,000 tons (Rs.15 lakhs) to 22,000 tons (Rs.19 lakhs). On the other hand, German imports fell from 27,000 tons (Rs.26 lakhs) to 14,000 tons (Rs.13 lakhs).

Beams, Channels, Pillars, Girders and Bridgework.—The total trade more than doubled from 72,000 tons to 144,368 tons and from Rs.90 to Rs.184 lakhs in value. The British share rose sharply from 24,000 tons (Rs.41 lakhs) to 63,000 tons (Rs.99 lakhs). Arrivals from Belgium advanced from 32,000 tons (Rs.33 lakhs) to 59,000 tons (Rs.62 lakhs), and those from France from 11,000 tons (Rs.9 lakhs) to 16,000 tons (Rs.14 lakhs).

Bolts and Nuts.—The total trade diminished from 11,330 tons to 20,265 tons and from Rs.32 to Rs.31 lakhs. The British share, on the other hand, advanced from 2,478 tons (Rs.10 lakhs) to 3,796 tons (Rs.15 lakhs). The share of Belgium was reduced from 4,621 tons (Rs.9 lakhs) to 3,483 tons (Rs.7 lakhs), while that of Germany fell from 2,766 tons (Rs.8 lakhs) to 1,353 tons (Rs.4 lakhs).

Nails, Rivets and Washers (other than Wire Nails).—The total trade advanced slightly from 17,000 tons to 18,000 tons, but the value remained constant at Rs.52 lakhs. Arrivals from the United Kingdom advanced from 6,552 tons to 6,627 tons but fell in value from Rs.20 to Rs.17 lakhs. Belgian shipments rose from 4,088 tons (Rs.9 lakhs) to 4,757 tons (Rs.10 lakhs). Sweden supplied Rs.8 lakhs, Norway Rs.9 lakhs and Germany Rs.3½ lakhs.

Cast Pipes and Fittings.—The total trade expanded from 9,080 tons (Rs.23 lakhs) to 15,672 tons (Rs.33 lakhs). While the British share rose from Rs.17 to Rs.19 lakhs, that of "other countries" advanced from Rs.6 to Rs.14 lakhs.

Hoops and Strips.—A fall is to be recorded in the total trade from 35,000 tons (Rs.53 lakhs) to 33,000 tons (Rs.48 lakhs). The British share rose in quantity from 13,684 tons to 15,178 tons and from Rs.24 to Rs.24½ lakhs in value. The share of Belgium was reduced from 12,824 tons (Rs.16 lakhs) to 10,397 tons (Rs.13 lakhs).

Galvanised Sheets and Plates.—There has been a very heavy advance in the total trade from 274,819 tons, valued at Rs.717 lakhs to 331,504 tons, valued at Rs.806 lakhs. The British share rose from 249,024 tons (Rs.645 lakhs) to 297,686 tons (Rs.724 lakhs). The American share fell from 12,088 tons (Rs.40 lakhs) to 4,330 tons (Rs.16 lakhs). "Other countries," notably Belgium, increased their shipments from 13,707 tons (Rs.32 lakhs) to 29,488 tons (Rs.65 lakhs).

As a result of the extraordinary large shipments, the market for galvanised sheets in Calcutta, which is the principal port of entry, was in a very depressed state during September-December. There were some failures, drafts had to be extended, and heavy stocks were accumulated. The off-take, however, during the season has been particularly good and the position at the close of the financial year had considerably improved.

Tinned Plates.—The total imports rose from 22,244 tons, valued at Rs.77 lakhs to 24,949 tons, valued at Rs.82 lakhs. The share of the United Kingdom advanced from 11,592 tons (Rs.40 lakhs) to 17,420 tons (Rs.57 lakhs), while that of the United States fell from 10,623 tons (Rs.37 lakhs) to 7,393 tons (Rs.25 lakhs).

Sheets and Plates (not galvanised or tinned).—The total imports were increased from 61,967 tons, valued at Rs.84½ lakhs, to 79,738 tons, valued at Rs.108 lakhs. The share of the United Kingdom rose from 16,510 tons (Rs.28 lakhs) to 44,396 tons (Rs.66 lakhs). Imports from Belgium fell from 31,234 tons (Rs.33 lakhs) to 30,566 tons (Rs.36 lakhs).

Wrought Tubes, Pipes and Fittings.—The total imports rose from 29,942 tons (Rs.91 lakhs) to 46,980 tons (Rs. 131 lakhs). Arrivals from the United Kingdom advanced from 12,202 tons (Rs.45 lakhs) to 28,583 tons (Rs.85 lakhs), and those from Belgium from 4,494 tons (Rs.11 lakhs) to 7,086 tons (Rs.16 lakhs). On the other hand, imports from Germany fell from 9,735 tons (Rs.25 lakhs) to 7,227 tons (Rs.17 lakhs). Imports from the United States fell very slightly to Rs.4 lakhs.

Wire Nails.—The total figures receded slightly from 14,498 tons to 13,433 tons and from Rs.25 to Rs.24 lakhs. The British share only amounted to 329 tons, valued at Rs.80,000. Arrivals from Germany were reduced from 3,276 tons (Rs.6 lakhs) to 2,260 tons (Rs.4 lakhs), and those from Belgium from 9,810 tons (Rs.17 lakhs) to 6,671 tons (Rs.12 lakhs).

Wire Rope.—There has been a satisfactory advance in the total trade from 3,027 tons (Rs.19½ lakhs) to 4,240 tons (Rs.25½ lakhs). Imports from the United Kingdom advanced from 2,716 tons (Rs.18 lakhs) to 3,910 tons (Rs.24 lakhs). Imports from the United States only amounted to Rs.42,000, and from "other countries" to Rs.1,48,000.

Aluminium.—The steady extension in the Indian hollow-ware manufacturing industry is clearly reflected in enhanced imports of aluminium circles, which form the raw material of the industry.

	1926-27		1927-28	
	Cwt.	Rs. (lakhs).	Cwt.	Rs. (lakhs).
<i>Unwrought</i> —				
Ingots, blocks, bars ...	5,470	4	3,786	3
<i>Wrought</i> —				
Circles	79,869	76	117,168	1,01
Sheets	4,634	4	5,965	5
Other manufactures ...	7,249	11	7,951	9
Total imports ...	97,222	95	134,870	1,18

Particulars relating to the origin of imports are not yet available for 1927-28, but in the previous year 46 per cent. of the unwrought ingots, &c., were obtained from the United Kingdom, 27 per cent. from Italy and 20 per cent. from Germany. Of the circles 24 per cent. were drawn from the United Kingdom, 42 per cent. from the United States, 17 per cent. from Germany and lesser amounts from Italy, Switzerland and Belgium. Sheets were obtained from the United Kingdom (31 per cent.), the United States (54 per cent.) and Germany (8 per cent.). The imports of "other manufactures," comprising mainly wire and utensils, were received from Belgium (36 per cent.), Germany (36 per cent.) and the United Kingdom (13 per cent.). Competition is very keen between the British Aluminium Company and the Northern Aluminium Company of America, both concerns having their own sales organisations in India. The Continental shippers work largely through local importers in the Bombay market.

Brass, Bronze and Similar Alloys.—Mixed or Yellow Metal for Sheathing.—There has been a slight reduction in this valuable trade :—

Countries of consignment.	1926-27		1927-28	
	Cwt.	Rs. (lakhs).	Cwt.	Rs. (lakhs).
United Kingdom	120,853	60	168,331	75
Germany	241,202	1,14	194,756	88
Japan	52,029	26	54,395	27
Other countries	12,772	4	10,282	4
Total	426,856	2,04	427,764	1,94

It is encouraging to note that the steady decline in the British share of the trade has been arrested. The British sheets lead in quality and are preferred if their price is reasonably near that of their competitors.

Other Manufactures (Wrought).—The imports were as follows :—

	1926-27	1927-28
	Rupees.	Rupees.
Rods	3,69,237	5,07,495
Sheets	4,61,957	2,97,823
Tubes	1,20,129	1,03,792
Wire	4,24,977	4,44,131
Other sorts... ..	31,64,970	21,22,688

Copper (Wrought).—The imports of wrought copper during the past two years have been made up as follows :—

	1926-27	1927-28
	Rs. (lakhs).	Rs. (lakhs).
Braziers	—	1
Sheets	1,09	92
Rods	4	6
Tubes	4	3
Wire (excluding telegraph and telephone wire)	4	2
Other manufactures	6	6

The subjoined table gives the provenance of the imports :—

Countries of consignment.	1926-27		1927-28	
	Cwt.	Rs. (lakhs).	Cwt.	Rs. (lakhs).
United Kingdom	33,771	19	70,000	36
Germany	164,740	77	70,888	36
Belgium	42,855	22	35,946	17
United States	775	1	1,089	1
Other countries	15,585	8	38,939	20
Total	257,726	1,27	216,862	1,10

German and Belgian competition is keenest in sheets and is based entirely on price.

German Silver (including Nickel Silver).—A slight advance in the total trade is to be recorded :—

	1925-26	1926-27	1927-28
Rupees ...	21,71,744	14,35,895	15,09,025

In 1926-27, the last year for which details are available, Germany shipped Rs.8 lakhs worth, Austria Rs.2 lakhs, Italy Rs.2 lakhs and the United Kingdom Rs.2 lakhs.

Railway Plant and Rolling Stock.—India's purchases of railway plant show a very considerable increase, both on account of State-operated lines and also on account of the company-worked railways. This is mainly due to very heavy purchases of steel sleepers from the Continent and increased imports of coaching stock and locomotives from the United Kingdom.

State-operated Lines.—The imports of Government Stores from the India Store Department, London, on account of the State railways were as follows :—

Countries of Consignment.	1925-26 Rs. (lakhs).	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
United Kingdom	2,26	1,71	2,53
Germany	17	15	18
Belgium	47	67	1,64
United States	1	3	1
Australia	11	6	7
Other countries	12	21	15
Total	<u>3,14</u>	<u>2,83</u>	<u>4,58</u>

The further reduction in the British share to 55 per cent. is disturbing, but inasmuch as it is largely due to certain grouped contracts for Belgian sleepers, which are not likely to recur for some years, it may reasonably be anticipated that the British proportion will be higher next year. For some years now the Director-General of the India Store Department has been carrying out his instructions to purchase in the cheapest market, irrespective of origin. The result, as is clearly shown in his annual report, has been a steady reduction in the British share of the trade. The introduction of the rupee tender system in India, which is dealt with at length in Chapter II, will have a revolutionary effect on the business as it will definitely transfer the purchases for Indian State railways from London to India. I therefore recommend all British suppliers of railway plant to study the statement of the new position which will be found in Chapter II.

Company-worked Lines.—There has been a noteworthy expansion in the trade on account of increased arrivals of locomotives and railway carriages and also of steel sleepers under the contracts already referred to. The figures are as follows :—

Countries of Consignment.	1925-26 Rs. (lakhs).	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
United Kingdom	4,22	2,00	3,71
Germany	18	28	18
Belgium	28	38	59
United States	14	21	10
Australia	8	24	12
Other countries	6	14	6
Total	4,96	3,25	4,76

The improvement in the British share from 61 to 78 per cent. is decidedly encouraging, but there is still a great deal of leeway to be made up before the percentages of the years prior to 1923 are attained.

Motor Vehicles.—Motor Cars.—The total number of cars imported was as follows :—

Year.	United Kingdom	United States.	Canada.	France.	Italy.	Other countries.	Total.
1913-14 ... (pre-war)	1,669	868	—	111	7	225	2,880
1923-24 ...	1,005	2,865	3,290	153	370	301	7,984
1924-25 ...	1,682	3,106	3,956	215	235	186	9,380
1925-26 ...	2,399	4,143	4,775	367	860	213	12,757
1926-27 ...	2,546	4,030	4,476	607	1,416	122	13,197
1927-28 ...	3,600	6,031	3,400	538	1,367	186	15,122

Thanks to increased efforts on the part of British manufacturers coupled with a reduction in the prices of many models, the rate of increase in the imports of British cars has been accelerated during the past year, and the United Kingdom now supplies 23 per cent. of the number and 29 per cent. of the value of the cars imported. While this shows a considerable improvement on the situation existing some years ago, the position can scarcely be considered entirely satisfactory in view of the very great potentialities of the market. The leading models of most of the cheaper makes of British cars can now be marketed in India at prices which are within the purchasing power of a large section of consumers who pay some regard to finish, durability and low running cost. The problems now to be overcome are largely those of representation and marketing. The majority of the most influential local firms of agents are already committed to the sale of competing foreign makes and, if a motor manufacturer is not prepared to open his own selling organisation, it is almost impossible to secure the right type of agent. Three leading British firms have their own sales organisations in India, a few others are adequately represented by local agents, but in a great many cases the local organisation is totally inadequate to the needs of the market. More direct

factory representatives are needed to supervise the appointment and activities of local agents and to give that personal attention to the market which is given in the case of our leading foreign competitors. The whole question is one to which I have devoted considerable attention during the last few years, and the Department of Overseas Trade will be glad to give advice on the subject.

The Committee of the Central Legislature, which was appointed by the Government of India to examine the whole question of road development, has completed the collection of evidence, and it is expected will submit its report in July. By the time this report is published its findings will probably be known.

The following statement shows the number of motor vehicles registered in British India up to 31st March, 1928 :—

Provinces.	Motor cars including taxi-cabs.	Motor cycles, including scooters and auto-wheels.	Heavy motor vehicles (lorries, buses, etc.).	Total.
Bengal (including Calcutta) ...	23,995	3,964	2,546	30,505
Bombay City (b) ...	8,549	560	788	9,897
Bombay Presidency (excluding Bombay City & Sind) (b)	7,527	622	107	8,256
Madras City ...	9,178	2,416	1,151	12,745
Madras Presidency (excluding Madras City) ...	4,917	1,664	4,087	10,668
United Provinces ...	7,352	2,415	2,527	12,294
Punjab... ..	10,836	3,371	316	14,523
Burma	11,444	2,903	3,409	17,756
Bihar and Orissa	5,250	950	983	7,183
Delhi	3,735	876	412	5,023
Central Provinces	3,564	935	984	5,483
Sind	2,578	882	141	3,601
North-West Frontier Province	2,052	1,213	769	4,034
Ajmer-Merwara	261	94	35	390
Assam (a)	1,454	299	753	2,506
Total	102,692	23,164	19,008	144,864

(a) Figures relate to motor vehicles registered up to 31st December, 1927.

(b) Figures represent numbers of vehicles re-registered during the year ended 31st March, 1926.

Motor Cycles.—The total trade expands slowly year by year, but until there is considerable improvement in the country's roads it is difficult to foresee any very great extension in demand. The total imports were :—

Countries of consignment.	1926-27		1927-28	
	No.	Rupees.	No.	Rupees.
United Kingdom	1,665	9,76,004	1,964	11,09,308
United States	75	44,514	67	44,181
Other countries	63	26,365	115	42,735
Total	1,803	10,46,883	2,146	11,96,224

It is encouraging to note that the United Kingdom still controls the market. Imports from "other countries" are drawn from Germany and France.

Motor Omnibuses, Vans and Lorries.—The extension of motor omnibus services both in the large towns and also connecting up-country villages with the nearest railway station continues, and the imports show a further considerable expansion. The vehicles were imported as follows:—

	1926-27 Number.	1927-28 Number.
Vehicles imported with bodies ...	998	1,270
Chassis	5,345	7,412

The provenance of the imports was as follows:—

Countries of consignment.	1926-27		1927-28	
	No.	Rs. (lakhs).	No.	Rs. (lakhs).
United Kingdom	341	19	447	23
Canada... ..	3,529	48	4,268	55
United States	2,322	49	3,699	67
Other countries	151	3	268	4
Total	6,343	1,19	8,682	1,49

Imports from the United Kingdom comprise the heavier vehicles, which are largely standardised by the tramway companies who operate fleets of 'buses in the large towns and are also used by the transport companies in the ports. The development in the use of the British commercial vehicles among Indian consumers is disappointing. The Indian who promotes his service or transport organisation has usually only a limited amount of capital. He therefore considers low first cost and is attracted by American and Canadian types of vehicles, which have a shorter life, but which are cheap and can be scrapped after a couple of years, thus avoiding the necessity for an elaborate repair and maintenance organisation.

Cycles (other than Motor Cycles and Parts thereof) and Accessories.—The remarkable boom in the cycle trade continued

throughout the year and the imports in 1927-28 were more than three times those of the last pre-war year. In my last report I sounded a note of warning that the trade was being overdone, and there are now unmistakable signs that the market is overstocked. We must therefore look for a falling off in the coming year. The figures were:—

	1925-26	1926-27	1927-28
Number of cycles imported, entire or in sections ...	96,649	115,528	138,783
	Rs. (lakhs).	Rs. (lakhs).	Rs. (lakhs).
Values of parts of cycles and accessories (excluding rubber tyres) ...	47	47	55

The total imports of cycles, parts and accessories were drawn as follows:—

Countries of origin.	1925-26 Rs. (lakhs).	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
United Kingdom ...	87	92	1,01
Germany ...	13	13	14
Other countries ...	1	2	2
Total ...	1,01	1,07	1,17

Owing to the remarkably low prices which have been reached by British manufacturers in the Midlands, coupled with an active selling organisation, they have maintained their share of the trade at 85 per cent. German competition is almost entirely in parts and accessories. The average landed value per machine was Rs.45—say £3 7s. 6d.

Provisions.—A further advance of Rs.63 lakhs is to be recorded, which is largely due to increased imports of vegetable products (vegetable ghee, vegetable fats or solidified vegetable oil as they are variously known). The subjoined table gives the source of the imports of provisions during the past two years:—

Countries of consignment.	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
United Kingdom ...	2,25	2,34
Netherlands ...	1,65	2,06
Straits Settlements ...	55	42
China (including Hongkong) ...	14	21
United States ...	45	48
Australia ...	13	9
Other countries ...	60	80
Total ...	5,77	6,40

In order to arrive at the true competitive position of the United Kingdom, Rs.192 lakhs worth of vegetable product which is almost entirely derived from Holland, and which is not a competitive British product, should be eliminated together with the imports from the Straits Settlements and China, which consist of

Oriental produce. After making these allowances it will be found that the United Kingdom supplies approximately 61 per cent. of the competitive trade.

The most important articles imported were the following :—

Principal articles.	Average of		
	1909-10	1926-27	1927-28
	5 years to 1913-14		
	cwt.	cwt.	cwt.
Farinaceous and patent foods ...	255,900	450,845	417,873
Canned and bottled provisions ...	86,100	109,716	118,647
Biscuits and cakes	72,900	51,341	60,328
Milk (condensed and preserved) ...	103,300	182,845	224,036
Jams and jellies	17,400	14,756	15,525
Bacon and hams	14,500	15,195	15,169
Cocoa and chocolate	4,600	4,936	4,038
Cheese	11,700	11,258	11,507
Vegetable products	*	*	444,431

*Not separately recorded.

Detailed information with regard to the provenance of the imports under each heading in 1927-28 are not yet available, but in 1926-27 the Straits Settlements supplied 45 per cent. of the farinaceous and patent foods imported. The British share of 39 per cent. consisted principally of milk foods for children and invalids. The United States supplied 55 per cent. of the canned fish and also of the canned and bottled fruits. Condensed and preserved milk was mainly drawn from the United Kingdom and Holland. Of the biscuits and cakes, 92 per cent. came from the United Kingdom and small quantities from Australia and Germany. The imports of jams and jellies were divided between the United Kingdom (60 per cent.) and Australia (37 per cent.). The United Kingdom supplied practically the whole of the bacon and hams, but only 51 per cent. of the cocoa and chocolate, severe competition being met with from Holland in cocoa and from Switzerland in chocolate. Two-thirds of the imports of cheese are drawn from Holland.

Vegetable Products.—The imports of solidified vegetable oils have advanced at a phenomenal rate during the last three years and now amount to Rs.192 lakhs (say £1,440,000). They are mainly drawn from Holland and are largely imported through Bombay and Karachi for sale in the Punjab and north-west India.

Liquors.—*Ale, Beer and Porter.*—The following table gives the imports, both quantities and values, during the past two years :—

Countries of consignment.	1926-27		1927-28	
	Gallons.	Rs. (lakhs).	Gallons.	Rs. (lakhs).
United Kingdom	2,380,356	54	2,915,083	63
Germany	1,090,826	30	1,092,440	31
Netherlands	164,575	4	246,432	5
Japan	150,242	3	189,943	3
Other countries	34,049	1	43,280	2
Total	3,820,048	92	4,487,178	1,04

During the year 1926-27, 1,302,985 gallons of beer were imported in bulk, mainly for the use of the troops, of which the United Kingdom supplied no less than 98 per cent. Of the beer imported in bottle, amounting to 2,314,651 gallons, the United Kingdom sent 39 per cent., Germany 46 per cent. and Holland and Japan each about 6 per cent. It is satisfactory to record an increase in the popularity of British light bottled beers during the last two or three years. British brewers, however, do not seem to produce a light beer of the lager type which will stand the climate as well as the one or two principal German brands. A large and lucrative business awaits the firm who can do this. The imports of stout and porter, amounting to 220,155 gallons, were almost entirely drawn from the United Kingdom.

Spirits.—The following table shows the quantities and values of the principal kinds of spirit imported into India :—

Description.	1926-27		1927-28	
	Gallons.	Rs. (lakhs).	Gallons.	Rs. (lakhs).
Brandy	469,224	51	425,696	46
Gin	108,103	10	114,108	11
Liqueurs	18,524	3	16,395	3
Rum	115,444	2	90,659	2
Whisky	542,826	90	547,359	92
Spirit present in drugs	131,784	37	141,291	39
„ perfumed	17,348	13	15,079	13
„ denatured	661,737	10	911,125	13
Other sorts	70,501	13	52,801	11

The next table shows the countries of consignment of all spirits :—

Countries of consignment.	1926-27		1927-28	
	Gallons.	Rs. (lakhs).	Gallons.	Rs. (lakhs).
United Kingdom	745,190	1,36	743,368	1,36
Germany	90,727	8	80,307	8
France	429,973	55	388,443	51
Java	759,344	11	994,787	14
U.S.A.	45,217	14	52,656	15
Other countries	65,040	5	54,952	6
Total	2,135,491	2,29	2,314,513	2,30

Brandy is almost entirely obtained from France with small quantities from the United Kingdom and Germany. The United Kingdom supplies 90 per cent. of the gin and Holland 10 per cent. Whisky is virtually a monopoly of the Scottish distillers, but in 1926-27 Germany sent Rs.60,000 of cheap spirit for the bazaar trade. Of the spirit present in drugs, medicines and chemicals the United Kingdom shipped 49 per cent., the United States 35 per cent. and France 9 per cent. Java supplies practically the whole of the denatured spirit, which is denatured at Indian Custom Houses immediately on arrival and before clearance.

Wines.—The imports of wines advanced from 295,720 gallons, valued at Rs.31 lakhs, in 1926-27, to 304,141 gallons, valued at Rs.32 lakhs, in 1927-28. Of the total imports in the former year the United Kingdom supplied 38 per cent., France 35 per cent. and Italy 8 per cent. The United Kingdom figures represent British re-exports from French, Portuguese and Spanish sources.

Paper and Pasteboard.—Although the total imports rose from 2,008,344 cwt. in 1926-27 to 2,089,012 cwt. in 1927-28, the value receded from Rs.308 lakhs to Rs.300 lakhs, due to a fall in prices. The subjoined table shows the percentage shares of the principal countries in the total imports:—

	1913-14 (pre-war)	1924-25	1925-26	1926-27
	Per cent.	Per cent.	Per cent.	Per cent.
United Kingdom	56.2	42.9	41.5	35.5
Norway	5.1	9.0	9.0	10.0
United States ... ..	.8	3.1	4.7	4.8
Sweden	3.2	4.4	7.2	7.0
Netherlands	2.5	7.4	9.0	7.8
Japan	1.0	1.0	1.6	1.6
Germany	17.3	21.2	12.1	16.1
Austria	8.3	4.0	6.3	7.6
Hungary	—	.1	—	—
Other countries	5.6	6.9	8.6	9.6
Total	100	100	100	100

Packing Paper.—This trade expands steadily, as the following figures show:—

Countries of consignment.	1926-27		1927-28	
	Cwt.	Rs. (lakhs).	Cwt.	Rs. (lakhs).
United Kingdom	22,868	6	22,170	6
Sweden	55,855	10	91,991	17
Norway	10,986	2	16,306	3
Germany	65,501	13	53,287	12
Netherlands	16,999	3	15,804	2
Other countries	35,316	6	46,681	9
Total	207,525	40	246,239	49

Scandinavia, on account of its natural resources, largely controls this trade, and ships either direct or through Hamburg.

Printing Paper.—There has been a sharp fall in the total imports although the protective duty does not seem to have contributed to this :—

Countries of consignment.	1926-27		1927-28	
	Cwt.	Rs. (lakhs).	Cwt.	Rs. (lakhs).
United Kingdom	86,385	19	102,210	21
Sweden	28,855	4	26,896	4
Norway	156,941	23	173,487	22
Germany	133,488	21	54,015	9
Netherlánds	34,696	6	49,718	9
Belgium	17,065	4	18,237	4
Austria... ..	96,920	15	64,068	9
Other countries	51,558	8	49,989	6
Total	605,908	100	538,620	84

The heavy imports of newsprint are chiefly derived from Scandinavia and Austria, where there are plentiful supplies of wood pulp. The competition of Holland in "Free Printing Papers" is increasing in intensity on account of their low price.

Writing Paper and Envelopes.—In spite of the protective duty of one anna per lb. on writing paper of all sorts, the total trade showed an advance of nearly Rs.5 lakhs :—

Countries of consignment.	1926-27		1927-28	
	Cwt.	Rs. (lakhs).	Cwt.	Rs. (lakhs).
United Kingdom	74,588	30	75,691	32
Sweden	7,962	2	9,687	2
Norway	20,642	5	32,688	8
Germany	26,726	7	16,123	4
Netherlands	19,602	4	18,829	4
Other countries	41,525	10	65,869	13
Total	191,045	58	218,887	63

British makers are experiencing keener competition from the Continent, which supplies lower grade papers at very cheap prices which appeal to the bazaars.

Miscellaneous.—

	1925-26 Rs. (lakhs).	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
Old newspapers in bags and bales	35	38	38
Other kinds of paper	22	24	23
Paper manufactures	17	16	12

Until three years ago the shipment of old newspapers was largely a British monopoly, but the shipments from America during the past three years have been 54,000, 167,000 and 200,000 cwt. respectively, and in 1926-27 United States shipments represented 30 per cent. of the total values.

Chemicals and Chemical Preparations (*excluding Chemical Manures and Medicines*).—The total imports of chemicals and chemical preparations during the last three years have been as follows :—

	Rs. (lakhs).
1925-26	203
1926-27	244
1927-28	265

Details with regard to the provenance of the imports last year are not available, but the Director-General of Commercial Intelligence, in his Review of the Trade of India in 1926-27, reports on the market as follows :—

“ As in the preceding year soda compounds accounted for 43 per cent. of the total value of chemicals imported in 1926-27, and were valued at Rs.1,05 lakhs as compared with Rs.88 lakhs in 1925-26. The United Kingdom had, as usual, the bulk of the trade in soda products and supplied 1,223,000 cwt. valued at Rs.91 lakhs as compared with 1,016,000 cwt., valued at Rs.77 lakhs in 1925-26. Sodium carbonate (soda ash and soda crystals) increased from 811,000 cwt., valued at Rs.47 lakhs, to 990,000 cwt., valued at Rs.58 lakhs, of which 884,000 cwt., valued at Rs.53 lakhs came from the United Kingdom. Caustic soda and sodium bicarbonate also advanced in quantity from 139,000 and 101,000 cwt. to 161,000 and 115,000 cwt., and in value from Rs.16 and Rs.8 lakhs to Rs.18 and Rs.9 lakhs respectively. All other soda compounds showed an increase with the exception of sodium bichromate, which recorded a decrease. Borax showed a small increase in quantity with a decrease in value owing to a reduction in prices. The quantity of acids imported rose by 27 per cent. from 11,000 cwt. to 14,000 cwt., and the value by 12 per cent. from Rs.5½ lakhs to Rs.6¼ lakhs. Imports of alum increased from 48,000 cwt. to 61,000 cwt. and of aluminous sulphates from 53,000 cwt., valued at Rs.2 lakhs to 70,000 cwt., valued at Rs.3 lakhs. The quantity of ammonia and salts thereof imported rose from 24,000 cwt. to 31,000 cwt., but the value remained almost stationary at Rs.8 lakhs. There was a good demand for bleaching materials, the imports of which rose from 67,000 cwt., valued at Rs.6 lakhs to 84,000 cwt., valued at Rs.8 lakhs. Among other chemicals copper sulphate, glycerine, lead acetate, potassium chlorate, and zinc chloride showed small increases, but copperas and disinfectants other than naphthalene decreased. Imports of carbide of calcium decreased in quantity but showed a small improvement in value. Imports of sulphur also fell slightly in quantity from

15,200 tons to 15,100 tons, but rose in value from Rs.14 lakhs to Rs.16 lakhs. The consignments from Italy increased from 4,000 tons or 26 per cent. of the total quantity imported in 1925-26 to 11,200 tons or 74 per cent. of the imports in 1926-27, while German supplies fell from 10,300 tons or 68 per cent. to 3,400 or 22 per cent."

The following table shows the position of the principal countries during the years 1925-26 and 1926-27 :—

Principal countries of consignment.	1925-26		1926-27	
	Rs. (lakhs).		Rs. (lakhs).	
United Kingdom	1,24		1,42	
Norway	4		4	
Germany	42		52	
Netherlands	4		6	
Belgium	3		4	
Italy	6		14	
Japan	3		3	
United States	6		7	
Total imports (all sources) ...	2,03		2,44	

The next table gives the percentage share of the principal countries of consignment over a period of years :—

	1913-14	1925-26	1926-27	1927-28
	(pre-war year)			
	Per cent.	Per cent.	Per cent.	Per cent.
United Kingdom	74.7	61.2	57.9	55.4
Germany	12.4	20.6	21.5	21.5
United States ... ..	.3	2.9	2.7	3.3
Italy	5.2	3.1	5.9	6.7
Kenya Colony... ..	—	1.4	1.4	1.8
Norway ... ..	.5	1.8	1.7	2.6
Japan	1.5	1.3	1.4	1.2
Other countries	5.4	7.7	7.5	7.5
Total	100	100	100	100

Both the British "Imperial Chemical Industries" and the German "I.G." are consolidating their interests, strengthening and extending their sales organisation throughout India and are preparing for a determined bid for supremacy in this market, which is likely to become one of the most important markets in the world for chemical products of all kinds.

Dyeing and Tanning Substances.—*Dyes obtained from Coal Tar.*—*Alizarines.*—The imports were derived as follows :—

Countries of consignment.	1926-27		1927-28	
	lbs.	Rs. (lakhs).	lbs.	Rs. (lakhs).
United Kingdom	741,872	4	1,284,005	8
Germany	2,991,139	19	3,000,738	19
Netherlands	999,816	7	514,379	3
Belgium	153,887	1	62,286	—
Total imports (all sources)...	5,044,663	32	5,172,731	33

The improvement in the share of the United Kingdom is encouraging.

Anilines.—

Countries of consignment	1926-27		1927-28	
	lbs.	Rs. (lakhs).	lbs.	Rs. (lakhs).
United Kingdom	443,291	7	357,063	7
Germany	6,001,810	84	9,005,045	1,16
Netherlands	410,714	8	227,730	4
Belgium	359,007	7	187,207	3
Switzerland	403,943	7	520,442	10
Italy	267,727	4	730,577	12
United States	1,951,513	19	1,326,946	14
Other countries	118,813	2	801,113	13
Total imports	9,956,818	1,38	13,156,123	1,79

The Germans, by dint of their remarkable organisation both in manufacturing and in marketing, have completely regained their grip on this valuable trade.

Soap.—The steady progress in this important trade continues. The various types imported were as follows :—

Description.	1926-27		1927-28	
	Cwt.	Rs. (lakhs).	Cwt.	Rs. (lakhs).
Household and laundry soap	340,308	1,00	364,726	1,09
Toilet Soap	43,032	46	43,800	47
Other sorts	19,135	6	13,943	5
Total imports	402,475	1,52	422,469	1,61
<i>Of which from—</i>				
United Kingdom	378,738	1,37	398,255	1,47
Other countries	23,737	15	24,214	14
Total	402,475	1,52	422,469	1,61

In household and laundry soaps the British productions are supreme on account *firstly* of their quality and *secondly* of the efficient selling organisation maintained by the leading manufacturers. In toilet soaps, however, American competition is rapidly increasing in the better qualities, and in 1926-27 accounted for 18 per cent. of the total. As I have frequently stated, the American productions are of world-wide repute, are most attractively made up, are extensively advertised and are actively pushed by travellers and agents, who receive very favourable terms. Foreign manufacturers appear to be more ready to meet special market require-

ments in the matter of shape, weight and make up than some of their British competitors. Germany and Austria export small quantities of the cheaper grades for bazaar use.

Paints and Painters' Materials.—Paints and Colours.—A satisfactory advance of over Rs.8 lakhs is to be recorded in the period under review. The position is as follows :—

Countries of consignment.	1926-27		1927-28	
	Cwt.	Rs. (lakhs).	Cwt.	Rs. (lakhs).
United Kingdom	257,933	79	291,972	84
Germany	45,789	8	35,690	9
Japan	12,394	4	12,447	3
United States	10,095	5	8,785	6
Other countries	62,545	15	89,278	18
Total imports	388,756	1,11	438,172	1,20

Japanese imports consist almost entirely of red lead. American shipments mainly comprise the better qualities of paints for the European demand. Germany, however, is competing very strenuously in the lower grade qualities for the bazaar trade, where cheapness is the main consideration.

Painters' Materials.—These comprise :—

Description.	1926-27		1927-28	
	Cwt.	Rs. (lakhs).	Cwt.	Rs. (lakhs).
Genuine Turpentine	7,087	4	5,869	3
Turpentine substitute	4,182	1	4,665	1
Varnish	32,911	21	40,893	23
Other kinds	Not recorded	7	Not recorded	8
Total	—	33	—	35

Scandinavia is now competing in genuine turpentine. In 1926-27 Sweden, Norway and Denmark contributed 45 per cent. of the trade, as compared with the United Kingdom (41 per cent.) and Germany (13 per cent.). Sixty-four per cent. of the turpentine substitute was supplied by the United Kingdom and 25 per cent. by the Straits Settlements. The valuable trade in varnish, which is principally used by the railway companies, was divided between the United Kingdom (88 per cent.), the United States (5 per cent.) and Germany (5 per cent.). British varnish manufacturers are strongly represented on the spot and one or two of them have also opened branch works in the country.

Drugs and Medicines. (*excluding Chemicals and Narcotics*).

—The principal items, which are enumerated under this comprehensive heading, are :—

Description.	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
Camphor	28	26
Cod liver oil	1	1
Preparations of opium and morphia ...	1	1
Proprietary and patent medicines ...	27	29
Quinine salts	26	23
Total imports of all kinds ...	1,90	1,98

Details with regard to the imports last year are not yet available, but of the total trade in drugs and medicines in 1926-27 the United Kingdom contributed 41 per cent., Germany 16 per cent., Japan 12 per cent., United States 8 per cent. and lesser values from China, Straits Settlements and France. Camphor is mainly drawn from Japan, with increasing quantities from Germany. Cassia Lignea is obtained almost entirely from China. Cod liver oil is 70 per cent. British, but imports from Holland are increasing. The valuable trade in proprietary and patent medicines is divided between the United Kingdom (54 per cent.), Germany (15 per cent.), United States (10 per cent.) and France (7 per cent.). Of the quinine salts the United Kingdom supplied 62 per cent., Germany 24 per cent., Java 7 per cent. and the United States 4 per cent. Imports of quinine from Java appear to be steadily decreasing in contrast with those from Germany, which is now a serious competitor of the United Kingdom. A large portion of the Government requirements of quinine are now drawn from the local cinchona plantations in several provinces.

The lack of a Pure Food and Drugs Act in India has handicapped reliable British suppliers for many years, as they are constantly being undersold by competitors whose drugs do not approach the standard of the British Pharmacopœa. The Government of India are now ascertaining the views of Local Governments with regard to the desirability of legislation.

Apparel (*excluding Hosiery, Boots and Shoes*).—The following table shows the imports under each main heading :—

Article.	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
Apparel, (including drapery, uniforms and accoutrements)	82	79
Gold and silver thread	29	28
Hats, caps, bonnets and hatters' ware	33	30
Lametta	6	10
Second-hand clothing	25	13
Waterproofed clothing	3	4
Total imports of all kinds ...	1,78	1,64

In 1926-27 the United Kingdom supplied 66 per cent. of the apparel, the competitors being Japan, United States, Germany and Italy. Gold and silver thread is still mainly drawn from France, but German imports increase steadily. Hats, caps, &c., are drawn from the United Kingdom (40 per cent.), Italy (41 per cent.), Japan (9 per cent.) and Germany ($3\frac{1}{2}$ per cent.). Lametta is derived from Germany and France. The trade in second-hand clothing is a valuable one and is centred in Calcutta and Karachi. The United Kingdom supplied 62 per cent. and the United States 37 per cent. The American competition is increasing rapidly. The relatively small imports of waterproofed clothing are drawn from the United Kingdom.

The provenance of the total imports was as follows:—

Countries of consignment.	1926-27		1927-28	
	Rs. (lakhs).		Rs. (lakhs).	
United Kingdom	86	...	68
Germany	21	...	25
France	24	...	28
Italy	16	...	13
Japan	13	...	14
United States	11	...	7
Other countries	7	...	9
Total	1,78	...	1,64

The reduced share of the United Kingdom is probably largely due to the falling off in the import of second-hand clothing.

Hosiery.—Cotton.—A slight reduction occurred in the total trade, which was made up as follows:—

	1926-27		1927-28	
	Rs. (lakhs).		Rs. (lakhs).	
Stockings and socks	24	...	24
Underwear	1,18	...	1,08
Other sorts	5	...	5
Total	1,47	...	1,37
<i>Of which from—</i>				
United Kingdom	3	...	2
Japan	1,18	...	1,13
United States	5	...	3
Other countries	21	...	19

The bulk of the imports consist of Japanese socks, singlets, &c., which are of a quality below that produced by the British manufacturer. The United States competes keenly in high-grade hosiery for European use, while imports from "other countries" represent, in the main, cheap bazaar hosiery of German manufacture.

Woollen.—The imports of woollen hosiery are considerable and tend to increase :—

	1925-26	1926-27	1927-28
Rupees ...	21,07,708	18,47,398	20,51,290

In 1926-27 the United Kingdom supplied 92 per cent. of the whole trade, negligible quantities being obtained from Germany, Italy and Japan.

Haberdashery and Millinery.—The following are the principal headings :—

Article.	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
Lace and embroidery ...	42	41
Towels not in the piece ...	8	14
Other sorts ...	63	71

The provenance of the imports was as follows :—

Principal countries of consignment.	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
United Kingdom ...	27	30
Germany ...	36	31
France ...	4	4
Switzerland ...	17	20
Italy ...	6	8
Japan ...	15	22
Other countries ...	8	11
Total ...	1,13	1,26

The trade in lace and embroidery is divided between Switzerland and Germany, the small import from the United Kingdom being largely re-export trade. Towels not in the piece comprise low-quality towels from Japan to the extent of 85 per cent. and the high-grade article from the United Kingdom to the extent of 12 per cent. The comprehensive heading of "other sorts" in 1926-27 was contributed to by the United Kingdom (37 per cent.), Germany (29 per cent.), Japan (9 per cent.) and lesser values from Switzerland, Italy, France and Czechoslovakia.

Boots and Shoes.—The demand for imported boots and shoes has expanded very rapidly of recent years and the imports now exceed the pre-war figures, as the following table clearly shows :—

	Pre-war average.	War average.	1925-26	1926-27	1927-28
Pairs (in 1,000) ...	2,323	1,170	1,357	1,915	2,773
Rupees (in 1,000) ...	56,73	41,31	40,40	57,13	66,98

The average price per pair of boots and shoes imported last year was Rs.2'41 (say 3s. 7d.).

The provenance of the imports was as follows :—

Countries of consignment.	1926-27		1927-28	
	Pairs.	Rs. (lakhs).	Pairs.	Rs. (lakhs).
United Kingdom	711,928	29	817,366	29
Japan	74,557	1	171,781	2
United States	573,939	14	692,367	16
Other countries	554,759	13	1,091,450	20
Total	1,915,183	57	2,772,964	67

In 1926-27 the United Kingdom supplied 81 per cent. of the imports of leather boots and shoes, the principal competition being from Czechoslovakia (6 per cent.) and France (4 per cent.). In footwear of materials other than leather, however, the United Kingdom only contributed 22 per cent., whereas the United States shipped 48 per cent., largely rubber soled shoes ("Plimsolls"), Austria 11 per cent., Czechoslovakia 4 per cent. and Japan 3 per cent. Both American and Continental manufacturers are strengthening their agency arrangements and competition may be expected to increase.

Leather.—The imports of unmanufactured leather were as follows :—

Description.	1926-27	1927-28
	Rs. (lakhs).	Rs. (lakhs).
Hides, tanned or dressed	3	3
Skins, tanned or dressed	3	4
Unwrought	10	12
Leather cloth (including artificial leather)	4	4
	20	23

The import of tanned or dressed hides is equally divided between the United Kingdom and Ceylon. Similarly, the import of tanned or dressed skins is shared equally by the United Kingdom and the United States. Unwrought leather is supplied by the United Kingdom (38 per cent.) and the United States (54 per cent.). Leather cloth is drawn as to 63 per cent. from the United Kingdom and 31 per cent. from the United States. Serious American competition is noticeable in 1926-27 for the first time.

The principal business is in leather manufactured goods :—

Description.	1926-27	1927-28
	Rs. (lakhs).	Rs. (lakhs).
Bags and Trunks	1	2
Pickers	9	9
Picking bands and straps	9	8
Roller skins	8	9
Saddlery and harness	2	2
Other sorts	11	11

The imports of industrial leathers such as pickers, picking bands and roller skins for use in the jute and cotton mills are predominantly British, although there were small consignments of pickers from Holland and picking bands and straps from Holland and France. The United States supplied over a lakh's worth of fancy manufactured leathers.

The following table shows the countries of consignment of the total imports of leather and leather goods:—

Principal countries of consignment.	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
United Kingdom	43	45
Germany	2	1
Ceylon	1	1
United States	10	12
Other countries	4	5
Total	60	64

Belting for Machinery.—Cotton Belting.—

Countries of origin.	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
United Kingdom	14	14
Other countries	1	1
Total	15	15

Germany sent Rs.48,000 worth.

Leather Belting.—

Countries of origin.	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
United Kingdom	22	27
United States	9	9
Other countries	2	2
Total	33	38

The United States is competing keenly in the highest grades of leather belting. American makers keep stocks in the country and give generous agency terms. Japan shipped over a lakh's worth and small quantities were drawn from Germany and Holland.

Belting of other Materials (including Coir).—

Countries of origin.	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
United Kingdom	26	28
Germany	4	3
United States	3	3
Other countries	1	1
Total	34	35

This heading mainly comprises balata belting.

Bobbins.—It is satisfactory to note that the falling off in the trade in 1926-27 has been made good in the period under review :—

Countries of origin.	1925-26 Rs. (lakhs).	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
United Kingdom	33	31	34
Germany	2	2	1
Other countries	3	2	3
Total	38	35	38

Other countries are mainly Japan and Sweden. It is satisfactory to note a reduction in the competition from Germany, which had tended to increase since the war. Efforts to manufacture bobbins in India have, so far, not met with much success.

Books and Printed Matter.—The total imports were :—

Rupees ...	1925-26	1926-27	1927-28
	56,87,578	56,60,183	61,97,992

In 1926-27 the United Kingdom supplied 83 per cent., the United States 8 per cent. and Germany 2 per cent. British publishing houses are strongly entrenched and maintain their position.

Stationery (excluding Paper).—The total trade recovered by nearly Rs.10 lakhs, of which the United Kingdom secured Rs.7½ lakhs.

Countries of consignment.	1925-26 Rs. (lakhs).	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
United Kingdom	51	45	53
Germany	24	25	23
Japan	5	4	6
United States	4	4	4
Other countries	4	4	6
Total	88	82	92

German competition is very keen in the cheap types of stationery for the bazaar trade, which is also catered for by Japan. Arrivals from the United States mainly comprise high-grade pens, pencils, &c., which find a sale by means of wide advertising and active canvassing by travellers. The backbone of the British trade is the supply of office stationery and requisites by British manufacturers, several of whom maintain active branches in the country.

Tobacco.—The steady increase in the imports of cigarettes is most remarkable and is a sign of the rise in the standard of life of the community based on general prosperity. The main forms in which tobacco was imported are as follows :—

Description.	1925-26	1926-27	1927-28
	lbs.	lbs.	lbs.
Unmanufactured tobacco	4,906,909	5,703,449	3,984,951
Cigars	39,727	33,002	35,973
Cigarettes	3,411,975	4,174,711	5,595,966
Tobacco for pipes and cigarettes ...	276,050	256,570	254,257
Other sorts	36,830	37,422	56,898
Total imports	8,671,491	10,205,154	9,928,045

The provenance of the imports of cigarettes was as follows :—

Countries of consignment.	1925-26 Rs. (lakhs).	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
United Kingdom	1,57	1,93	2,38
Aden and Dependencies ... ..	.3	.3	.3
Egypt ... ..	.9	.8	.8
United States ... ..	.2	.3	.3
Other countries ... ..	.4	.3	.4
Total	1,58.8	1,94.7	2,39.8

When to these figures is added the total of the production of the Imperial Tobacco Company's factories at Monghyr, Bangalore and elsewhere, the immensity of the market will be realised.

Rubber Manufactures.—Rubber Tyres.—Pneumatic Motor Covers.—The total number of covers imported rose from 310,551 to 418,808 and of tubes from 347,302 to 446,873. The provenance of the imports was as follows :—

Countries of consignment.	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
United Kingdom	42	48
Germany	5	4
France	26	23
Italy	5	9
Canada	17	36
United States	23	48
Other countries	(a)	1
Total	1,18	1,69

(a) Less than 1 lakh.

The outstanding feature of the past three years has been the great advance in the imports of American and Canadian tyres, due to a determined bid for the market by three or four leading manufacturers. Some of the principal American makers have now opened branch factories in the United Kingdom, and it is possible that, in future, they may meet the Indian demands from these branches. The British position almost entirely rests on the efficient and widespread organisation of the Dunlop Company. Service is the keynote of the tyre trade, and unless the other British

tyre makers are prepared to incur considerable expense in developing a widespread marketing system with service depots, they cannot expect to meet the superior organisation of their foreign rivals. The reduction of the import duty from 30 to 15 per cent. and the rapid extension in the use of motor cars should insure a continuous expansion in the total trade.

Pneumatic Motor Cycle Covers.—

	1926-27	1927-28
	Rs. (lakhs).	Rs. (lakhs).
United Kingdom	1·30	1·16
United States	·04	·15
Other countries	·47	·42
Total	1·81	1·73

The firm grip of British manufacturers on the motor cycle trade places the British tyre in a favourable position.

Pneumatic Cycle Covers.—

	1926-27	1927-28
	Rs. (lakhs).	Rs. (lakhs).
United Kingdom	7·1	7·2
Germany	·5	·2
France	5·8	4·4
Other countries	·6	·6
Total	14·0	12·4

French competition in pedal cycle covers is still keen.

Solid Rubber Tyres for Motor Vehicles.—

	1926-27	1927-28
	Rs. (lakhs).	Rs. (lakhs).
United Kingdom	7	6·6
Germany	·8	1·7
United States	3·5	4·3
Other countries	·3	2
Total	11·6	14·6

Tubes.—

	1926-27	1927-28
	Rs. (lakhs).	Rs. (lakhs).
Pneumatic Motor Tubes	24	32
„ motor cycle tubes	·5	·9
„ cycle tubes	9·4	9·7

*Other Manufactures of Rubber (except Apparel and Boots and Shoes).—*The total imports amounted to :—

	1925-26	1926-27	1927-28
Rupees ...	27,99,616	31,28,436	29,98,572

This heading includes mechanical rubbers of all kinds, brake fittings, hose, &c., &c. In 1926-27 the United Kingdom secured 47 per cent., Germany 24 per cent., United States 19 per cent., with

lesser quantities from the Straits Settlements and Japan. German competition is increasing at a very rapid rate.

Instruments, Apparatus, Appliances and Parts thereof.—
This comprehensive classification is made up as follows:—

Description.	1926-27	1927-28
	Rs. (lakhs).	Rs. (lakhs).
Electrical apparatus	2,52	2,83
Musical instruments	27	23
Optical instruments	8	8
Cinematograph films	23	26
Photographic apparatus	23	23
Scientific instruments	22	22
Surgical instruments	21	23
Wireless apparatus	5	16
Other kinds	20	23
Total imports	4,01	4,47

Musical Instruments are drawn from the United Kingdom (46 per cent.), Germany (35 per cent.) with smaller quantities from the U.S.A. and Switzerland.

Optical Instruments.—Germany supplies 54 per cent. of the optical instruments, the United Kingdom 15 per cent., Japan 14 per cent., and the U.S.A. 9 per cent. Competition from America and Japan is mainly in spectacle lenses and frames, but Germany competes in the whole range of instruments, and her trade is growing rapidly at the expense of British makers.

Cinematograph Films.—The American grip on the screen is clearly reflected in the fact that she supplied 55 per cent. in value of the films imported. The United Kingdom sent 25 per cent. and Germany 9 per cent. Imports from the United Kingdom largely include copies of American films shipped from London. British made films are, however, increasing in number and popularity, and this growing British industry should find a good market in India for its productions.

Photographic Apparatus. In 1926-27 the United Kingdom supplied 55 per cent., the U.S.A. 21 per cent., and Germany 16 per cent. The Kodak Company give good service on the spot, while German houses are extending their representation and sales.

Scientific Instruments.—The United Kingdom contributes 71 per cent. of this trade, Germany 18 per cent., and the U.S.A. 7 per cent. The imports have tended to decline of late years.

Surgical Instruments.—In 1926-27 the United Kingdom supplied 57 per cent., Germany 26 per cent., and the U.S.A. 11 per cent. British manufacturers are actively represented by branch houses or agents, and appear to be holding their own against American competitors. The import of the cheaper German instruments is, however, increasing steadily.

Wireless Apparatus.—The Indian Broadcasting Company commenced to transmit from their Bombay Station in July, 1927, and from Calcutta in August of that year. The result is shown in an increase in the total amount of apparatus imported from Rs.5 lakhs to over Rs.15 lakhs, the latter figure including a considerable amount of station equipment. The results of the first year's working show a considerable loss, but the company are continuing to broadcast and are endeavouring to raise further working capital.

A list of licensed importers of wireless apparatus may be obtained by British firms from the Department of Overseas Trade.

The imports during the past two years were as follows :—

Countries of origin.	1926-27	1927-28
	Rs. (lakhs).	Rs. (lakhs).
United Kingdom	4.3	10.6
United States ... ..	.3	.9
Other countries ... ..	.3	4.2
Total	4.9	15.7

The share of Germany, Holland and other Continental sources of supply increased considerably during the year.

Electrical Apparatus.—This is by far the most important item in the whole group. The following statement gives the value and origin of the several classes of electrical apparatus imported during the last two years :—

Description of Electrical Apparatus.	1926-27	1927-28
	Rs. (lakhs).	Rs. (lakhs).
Electric fans and parts thereof	32	34
Electric wires and cables	81	90
Telegraph and telephone instruments	5	6
Electric lamps and parts thereof	39	39
Batteries	10	11
Carbons, electric	1	1
Accumulators	17	22
Electric lighting accessories and fittings, including switches	15	15
Meters	6	7
Electro-medical apparatus (including X-Ray apparatus)	2	2
Switchboards (other than telegraph and telephone)	4	5
Unenumerated	40	51
Total imports of all kinds	2,52	2,83

Analysing the above total we find that the imports of electric wires and cables rose from Rs.81 to Rs.90 lakhs, the increased trade being almost entirely secured by the United Kingdom whose share advanced from Rs.71 to Rs.80 lakhs. The United States and Holland each supplied about Rs.2½ lakhs worth. The trade in electric glow lamps and parts thereof, which rose from Rs.21 to Rs.26 lakhs, was divided between the Netherlands (Rs.9½ lakhs), the United Kingdom (Rs.6¼ lakhs), Germany (Rs.2 lakhs) and "other countries" (Rs.7 lakhs). Electric lamps of other kinds, amounting to Rs.9½ lakhs, were obtained from the United States (Rs.6½ lakhs), Germany (Rs.1¼ lakhs) and the United Kingdom (Rs.1 lakh). The Rs.34 lakhs worth of electric fans imported were obtained from the United Kingdom (Rs.18 lakhs), Italy (Rs.8 lakhs), United States (Rs.2 lakhs) and "other countries" (Rs.6 lakhs). Of a total of Rs.51 lakhs worth of unenumerated

electrical apparatus the United Kingdom supplied Rs.28 lakhs, the United States Rs.10 lakhs, Germany Rs.6 lakhs and Japan Rs.1 lakh. Accumulators were imported to a total of Rs.22 lakhs, of which the United Kingdom supplied Rs.19 lakhs and the United States Rs.1½ lakhs. Meters and switchboards were almost entirely obtained from the United Kingdom, but of the Rs.11 lakhs worth of batteries imported the United States supplied Rs.6½ lakhs, the United Kingdom Rs.1 lakh and "other countries" Rs.3 lakhs.

The provenance of the total imports was as follows :—

Principal countries of consignment.	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
United Kingdom	1,70	1,85
Germany	22	28
Netherlands	10	13
Italy	7	8
Japan	2	3
United States	33	35
Other countries	8	11
Total	2,52	2,83

Earthenware and Porcelain.—This classification includes :—

Article.	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
<i>Earthenware</i> —		
Pipes of earthenware	1	.5
Sanitary ware	7	6
Other kinds	46	37
<i>Porcelain</i> —		
Electrical	1	2
Other kinds	28	35
Total imports	83	80.5
<i>Of which from</i> —		
The United Kingdom	30	30
Germany	6	6
Japan	33	33
Other countries	14	11.5

Earthenware pipes are almost entirely drawn from the United Kingdom, but Belgian shipments show a tendency to be competitive. The United Kingdom supplies 94 per cent. of the sanitary ware. Other kinds of earthenware, including crockery, tableware, &c., were in 1926-27 divided between the United Kingdom (43 per cent.), Japan (23 per cent.), Germany (11 per cent.), with lesser quantities from Belgium and the United States. The competition of Germany and Japan is being keenly felt by Staffordshire makers, particularly in the Rangoon market.

The imports of electrical porcelain in 1926-27 were drawn from the United Kingdom (36 per cent.), Germany (37 per cent.) and

Japan (24 per cent.). Other kinds of porcelain were supplied by Japan (80 per cent.), the United Kingdom (7 per cent.) and Germany 6 (per cent.). The principal ports of entry of earthenware and porcelain in order of importance are Bombay, Rangoon, Calcutta, Madras and Karachi.

Glass and Glassware.—The following table shows the types of glass and glassware imported :—

Description.	1926-27	1927-28
	Rs. (lakhs).	Rs. (lakhs).
Bangles	85	89
Beads and false pearls.	31	27
Bottles and phials	39	33
Funnels, globes and glass parts of lamps	19	22
Scientific glassware	2	2
Sheet and plate glass	32	30
Tableware	9	9
Other glassware	36	36
Total imports	2,53	2,48

The provenance of the imports was as follows :—

Countries of consignment.	1926-27	1927-28
	Rs. (lakhs).	Rs. (lakhs).
United Kingdom	26	23
Germany	52	49
Belgium	27	24
Austria	4	4
Czechoslovakia	63	61
Italy	6	6
Japan	66	69
Other countries	9	12
Total	2,53	2,48

From the point of view of the United Kingdom the trade in glass bangles and beads is non-competitive, the former being practically a monopoly of Czechoslovakia and Japan and the latter being drawn from those countries with fair quantities from Germany and Italy. Of the imports of soda water bottles, Germany now supplies 54 per cent. and the United Kingdom 41 per cent. Other kinds of bottles are drawn from Japan (46 per cent.), Germany (31 per cent.) and the United Kingdom (14 per cent.). As I stated last year, there is scope for greater activity in India by British bottle manufacturing concerns, who are rapidly losing their market. Germany supplies 53 per cent. of the funnels, globes and glass parts of lamps, United States 18 per cent., Japan 11 per cent., Austria 6 per cent. and Belgium 5 per cent. The United Kingdom sent a trivial £3,000 worth. In scientific glassware Germany supplies half the demand and the balance is divided between the United Kingdom and the United States. The imports of sheet and plate glass are drawn from Belgium (69 per

cent.) and the United Kingdom (27 per cent.). British makers ship the better qualities and the Belgian manufacturers supply the large bazaar demand for cheap window glass. Tableware is obtained from Japan (55 per cent.), Germany (20 per cent.), Belgium (9 per cent.) and the United Kingdom (8 per cent.). Miscellaneous glassware is drawn from Japan, Germany and the United Kingdom in the order given.

Building and Engineering Materials (other than Iron, Steel and Wood).—The trade shows steady, regular expansion and improved last year to the extent of Rs.5 lakhs. The principal items in the classification are the following :—

Description.	1926-27	1927-28
	Rs. (lakhs).	Rs. (lakhs).
Asphalt	24	25
Bricks (other than firebricks)	1	1
Firebricks	3	4
Portland cement	56	62
Cement, other kinds	2	3
Tiles	25	20
Other kinds	13	14
Total imports	1,24	1,29

Detailed figures of the imports of asphalt are not yet available for the past year, but in 1926-27 the United Kingdom supplied 9 per cent. while the United States sent over 50 per cent. and the Netherlands 40 per cent. The imports from Trinidad have entirely ceased, while those from the United States expand at a very rapid rate. With the inevitable extension of roads throughout the country the demand for asphalt should increase considerably. The negligible imports of bricks are mainly drawn from Italy, while firebricks are almost entirely imported from the United Kingdom. Tiles are supplied by Italy (33 per cent.), Belgium (24 per cent.), the United Kingdom (26 per cent.), with lesser quantities from Germany and France.

Cement.—The imports of cement were obtained as follows :—

Countries of consignment.	1926-27		1927-28	
	Tons.	Rs. (lakhs).	Tons.	Rs. (lakhs).
United Kingdom	71,513	44	90,585	54
Germany	9,199	5	5,350	3
Japan	9,309	4	9,449	4
Other countries	11,015	5	6,897	4
Total	101,036	58	112,281	65

The improvement in the British position is satisfactory although there is little hope for much expansion in the total trade in view

of the competition of local cement works, which produce cement fully equal to the British standard specification. The principal import market is Rangoon in view of its distance from the Indian works.

Hardware (excluding Cutlery and Electro-plated Ware).— There was an advance of nearly Rs.18 lakhs in the total trade, which more than made good the reduction in the previous year. Last year's aggregate of Rs.525 lakhs is well above the pre-war annual average of Rs.317 lakhs. The figures are as follows :—

Article.	1926-27		1927-28	
	Rs. (lakhs).		Rs. (lakhs).	
Agricultural implements	17	...	19
Buckets of tinned or galvanised iron	1	...	2
Builders' hardware	34	...	34
Domestic hardware, other than enamelled ironware	10	...	12
Enamelled iron ware	40	...	37
Gas mantles	6	...	8
Implements and tools (other than agricultural implements and machine tools)	79	...	77
Lamps, metal	84	...	81
„ glass	1	...	1
Parts of lamps other than glass	7	...	10
Safes and strong boxes of metal	3	...	3
Stoves	9	...	10
Other sorts	2,16	...	2,31
Total imports	5,07	...	5,25

The provenance of the imports during the last two years was as follows :—

Of which from—	1926-27		1927-28	
	Rs. (lakhs).		Rs. (lakhs).	
United Kingdom	1,85	...	2,06
Sweden	15	...	16
Germany	1,58	...	1,61
Austria	13	...	13
Japan	29	...	28
United States	71	...	62
Other countries	36	...	39
Total	5,07	...	5,25

The next table of percentage shares shows the position of the leading suppliers over a period of years :—

	1913-14 (pre-war year).	1924-25	1925-26	1926-27	1927-28
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
United Kingdom	57	40	38	36	39
Germany ...	18	27	27	31	31
United States ...	10	16	16	14	12
Japan ...	1	5	7	6	5
Other countries ...	14	12	12	13	13
Total ...	100	100	100	100	100

The whole question of the reasons for the success of German competition in the market for cheap hardware in the bazaars was dealt with at length in Chapter II of my last report. It is encouraging to note that the relative British position has improved slightly during the past year, but the fact remains that we are still nearly 20 per cent. below the pre-war figure. The following notes give the statistical position in each section of the trade:—

Agricultural Implements.—The implements which are included in this heading are mainly hoes, forks, &c., for the tea gardens of Assam and southern India and for the rubber plantations of Madras and Burma. The United Kingdom supplies 85 per cent. and the United States 11 per cent. Local competition from the Agricultural Implements Company of Jamshedpur, which is now a branch of the Tata Iron & Steel Co., Ltd., is likely to become more acute. The concern is under efficient management, new and improved plant is being installed and an active sales campaign is being undertaken. These works produce picks, kodalties, powrahs, hammer heads, &c., &c., of fair quality.

Galvanised Buckets.—This used to be a valuable British trade before the war, but buckets are now made locally from imported sheets and galvanised in the country. The imports are almost all into Rangoon and are drawn from the United Kingdom.

Builders' Hardware, such as Locks, Hinges, Door Bolts, &c.—The imports from Great Britain are declining steadily in favour of cheap German productions, which are usually below the British article in quality, but so far below it in price that dealers cannot afford to pay the premium required for the better quality. The imports in 1926-27 were drawn from the United Kingdom (21 per cent.), Germany (57 per cent.), Sweden (12 per cent.) and the United States (7 per cent.).

Domestic Hardware.—A similar state of affairs prevails in this trade. In 1926-27 Germany supplied 48 per cent., the United Kingdom 32 per cent., the United States 4½ per cent., and lesser quantities were drawn from Sweden, Austria and Japan.

Enamelled Ironware.—This considerable trade is divided between Japan (48 per cent.), Germany (24 per cent.), Czechoslovakia (10 per cent.), Austria (7 per cent.) and the United Kingdom (6 per cent.). British shippers only meet the demand for the higher grades. In the cheap bazaar trade Japan is competing very keenly with the Continent, particularly in the Burma market.

Gas Mantles.—In 1926-27 Germany shipped 64 per cent., the United States 21 per cent. and the United Kingdom 11 per cent. Bombay is the principal market, followed by Calcutta and Rangoon.

Metal Lamps.—Birmingham exporters have almost entirely lost the valuable trade in hurricane and house lamps which they enjoyed in pre-war days. They now only supply 2½ per cent. of the total imports and their contribution consists entirely of the high-grade article for European use. In 1926-27 Germany supplied 60 per cent., the United States 28 per cent., Austria 5 per cent. and Czechoslovakia 2 per cent.

Implements and Tools.—There is an immense business in hand tools of all kinds which is shared by the United Kingdom (55 per cent.), the United States (22 per cent.), Germany (16 per cent.), with lesser quantities from France and Sweden.

Safes and Strong Boxes of Metal.—The import trade shows little movement owing to the rapidly increasing production of cheap safes in Bombay and of strong boxes of all kinds at Multan and other centres in northern India. The United Kingdom supplied 33 per cent. of the imports, Germany 25 per cent., Austria 22 per cent. and France 10 per cent. Bankers' strong-rooms and the best quality safes are still supplied by British makers, but the cheap safe for the bazaar is usually of German or Austrian make.

Stoves.—Sweden supplied 72 per cent., the United Kingdom 13 per cent. and the remainder were obtained from the United States, Germany and Austria. The Swedish share largely consists of stoves of the well-known "Primus" variety.

Other Sorts.—Nearly half the total imports are placed, owing to difficulty of classification, under this omnibus heading, which amounted to over 2 crores in value. In 1926-27 the United Kingdom supplied 49 per cent., Germany 24 per cent., the United States 10 per cent., with smaller quantities from Japan, Czechoslovakia, Austria and Belgium.

Cutlery.—The classification distinguishes between pruning knives and other kinds as follows:—

	1925-26	1926-27	1927-28
	Rs. (lakhs).	Rs. (lakhs).	Rs. (lakhs).
Pruning knives	2	2	2
Other kinds	31	39	36
Total imports	33	41	38
<i>Of which from—</i>			
The United Kingdom	9	9	10
Germany	22	30	26
Other countries	2	2	2
Total imports	33	41	38

Pruning knives for the tea gardens are all obtained from the United Kingdom. The well-known Sheffield makes of table cutlery find a sale among the European and wealthy Indian community, but have been ousted from the bazaars by the cheaper German products, which are so much lower in price that there is really little competition.

Polishes.—The aggregate trade advanced by Rs.2½ lakhs during the year :—

Article.	1925-26	1926-27	1927-28
	Rs. (lakhs).	Rs. (lakhs).	Rs. (lakhs).
Leather polish	15	13	15
Metal polish	6	5	5
Wood polish	1	1	1
Other sorts	—	2	2
Total imports	22	21	23

The trade shows progressive growth and the United Kingdom still supplies 90 per cent. There is slight competition from the United States in leather polishes and in wood polish.

Arms, Ammunition and Military Stores.—This comprehensive heading is made up as follows :—

Description.	1926-27	1927-28
	Rs. (lakhs).	Rs. (lakhs).
Cartridge cases (filled)	15	15
Cartridge cases (empty)	·7	·5
Explosives	22	27
Firearms and parts thereof	24	24
Gunpowder	1	1
Other sorts	6	3
Total imports	68·7	70·5

Filled cartridge cases were last year obtained from the United Kingdom (74 per cent.), the United States (15 per cent.), and "other countries" (notably Belgium) (10 per cent.). The imports of empty cartridge cases are very small and were drawn from the United Kingdom (60 per cent.), the balance being obtained from Germany and the United States.

The trade in explosives is very firmly held by British manufacturers. In 1926-27 the United Kingdom supplied 82 per cent., Belgium 11 per cent. and Germany 5 per cent. German competition was entirely in blasting fuses, while Belgium supplied a small quantity of gelatine dynamite.

Firearms are imported from the United Kingdom (70 per cent.), Germany (12 per cent.), the United States (8 per cent.) and Belgium (6 per cent.). American competition shows a tendency to decline at the expense of Germany and Belgium, which supply cheap rifles and shot-guns for Indian consumption. The United Kingdom supplies all the gunpowder.

In addition to the imports on private account enumerated above mention should be made of Rs.36 lakhs worth of arms, ammunition and military stores imported on Government account from the United Kingdom.

Brushes and Brooms.—These include :—

	1926-27	1927-28
	Rs. (lakhs).	Rs. (lakhs).
Paint and varnish brushes	3.4	3.4
Toilet brushes	4.3	5.1
Other brushes	4.7	4.8
Brooms ... ..	.4	.5
Total imports	12.8	13.8

Paint and varnish brushes were drawn from the United Kingdom (81 per cent.), Germany (13 per cent.) and Austria (3 per cent.). In toilet brushes, however, the United States contributes 54 per cent., Germany 21 per cent. and the United Kingdom only 12 per cent. Japan sent 6 per cent., largely cheap tooth brushes. In brushes, as in other toilet requisites, the American manufacturers are making great headway by dint of advertising, active sales propaganda and the grant of generous terms to agents and travellers. Other brushes for industrial and general use are drawn from the United Kingdom (48 per cent.), Germany (25 per cent.), Japan (11 per cent.) and the United States (10 per cent.). The small trade in brooms is largely divided between the United Kingdom and the Straits Settlements.

Toys and Requisites for Games and Sports.—The steady increase in this trade continues :—

	1925-26	1926-27	1927-28
Rupees ...	54,27,078	61,11,178	63,81,947

Toys account for nearly two-thirds of the whole and are obtained from Germany (42 per cent.), Japan 29 per cent., the United Kingdom (16 per cent.) and the United States (6 per cent.). Imports from the United Kingdom have made a slight recovery during the past three years.

Playing cards were imported in 1926-27 to the extent of Rs.14 lakhs. The United States contributed 49 per cent., Belgium 36 per cent., the United Kingdom 6 per cent. and Germany 5 per cent.

Requisites for games and sports were imported in 1926-27 to the value of Rs.10½ lakhs and were drawn from the United Kingdom (67 per cent.), Norway (14 per cent.), Germany (9 per cent.), with lesser shares from the Straits Settlements, the United States and Japan. Indian manufacturers at Sialkot and other centres in the Punjab now compete very keenly in tennis racquets and almost every other branch of the trade, and last year actually exported Rs.2½ lakhs worth.

Tea Chests (*entire or in sections*).—The imports fluctuate according to the state of the tea trade. Last year an improvement of Rs.9 lakhs is to be recorded.

Countries of consignment.	1925-26 Rs. (lakhs).	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
United Kingdom	68	49	61
Russia... ..	—	—	1
Finland	14	9	1
Estonia	—	3	7
Other countries	3	2	2
Total	85	63	72

Germany supplied most of the chests under the heading of other countries, the imports from Japan having been reduced to Rs.30,000. South India imported Rs.21,000 worth of metal chests, but this trade has now almost ceased.

Umbrellas and Umbrella Fittings.—The imports of complete umbrellas, including parasols and sunshades, were as follows:—

Countries of consignment.	1926-27		1927-28	
	No.	Rs. (lakhs).	No.	Rs. (lakhs).
United Kingdom	215,896	6	173,000	5
Other countries	53,669	1	121,036	2
Total	269,565	7	294,036	7

The imports from other countries are derived mainly from France, Switzerland, Japan and Germany. This trade is not likely to show much expansion in future as umbrellas are being more and more made up in the country from imported cloth and fittings.

Umbrella fittings were imported as follows :—

Countries of consignment.	1925-26 Rs. (lakhs).	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
United Kingdom	10	9	11
Germany	17	21	27
Japan	13	14	16
Other countries	1	1	1
Total	41	45	55

Germany is rapidly increasing her share of this trade at the expense of the United Kingdom and Japan.

Jewellery and Plate of Gold and Silver (*excluding Imitation Jewellery, Precious Stones and Pearls unset*).—

Article.	1925-26 Rs. (lakhs).	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
Jewellery	13	31	10
Plate of gold and silver	6	7	7
	19	38	17

The heavy import duty of 30 per cent. tends to check any development in this trade. The sporadic advance in 1926-27 represented an abnormal import through Bombay, probably on account of one of the Indian States. In that year, of the jewellery imported, the United Kingdom contributed 70 per cent., France 12 per cent., Arabia 5 per cent., Ceylon 3 per cent., and lesser values from the Straits Settlements, China, Japan and United States. Gold and silver plate is mainly drawn from the United Kingdom.

Electro-plated Ware.—The imports were :—

	1925-26	1926-27	1927-28
Rupees ...	5,34,982	6,65,327	7,14,034

This is predominantly a British trade (90 per cent.). Small shipments are obtained from Germany and France.

Carriages and Carts (*excluding Railway Carriages*) and parts thereof.—The total imports were :—

	1925-26	1926-27	1927-28
Rupees ...	15,76,581	19,48,847	16,64,301

The United Kingdom supplies 46 per cent., Japan 27 per cent., Germany 12 per cent. and the United States 5 per cent. The whole of the small trade in perambulators and go-carts, amounting to Rs.2½ lakhs, is British.

Oil Cloth and Floor Cloth.—The imports are practically stationary at Rs.9 lakhs worth per annum, of which the United Kingdom supplies Rs.5 lakhs, United States Rs.3 lakhs and Germany Rs.¼ lakhs. The principal markets are Bombay and Rangoon.

Furniture and Cabinetware.—

	1925-26	1926-27	1927-28
Rupees ...	22,00,397	29,68,275	30,61,860

In 1926-27 the United Kingdom supplied 48 per cent., Germany 21 per cent., the United States 9 per cent., Italy 7 per cent. and Japan 5 per cent. Germany and Italy competed principally in mouldings, while American shipments largely comprised camp furniture of patent design.

Matches.—The United Kingdom does not export matches to India on a commercial scale, but the London market is financially interested in the Indian developments of the Swedish Match Combine. The import figures for the past year may be of interest :—

Principal countries of consignment.	1926-27		1927-28	
	Gross.	Rs. (lakhs).	Gross.	Rs. (lakhs).
Sweden	4,520,576	48	2,935,123	32
Norway	125,951	2	67,798	1
Czechoslovakia	319,525	3	115,400	1
Japan	956,236	11	329,700	3
Other countries	179,677	2	72,296	2
Total	6,101,965	66	3,520,317	39

The Swedish Combine now operate well-equipped modern factories in the principal Indian markets and maintain a wide-spread sales organisation. It may be expected, therefore, that the decline in imports will continue at an increasing rate. The report of the Indian Tariff Board on the state of the match industry is dealt with in Chapter III.

Packing (Engine and Boiler) of all kinds excluding Asbestos.—

	1925-26	1926-27	1927-28
Rupees ...	6,26,170	4,01,848	4,64,459

In 1926-27, the last year for which detailed figures are obtainable, the United Kingdom supplied 90 per cent., the United States 5 per cent. and Germany and France each an unimportant quantity. The large consignment of Rs.2½ lakhs worth in 1925-26 appears to have been quite abnormal.

Toilet Requisites.—This large heading includes all articles for toilet use not separately classified elsewhere. The latest figures are :—

	1925-26	1926-27	1927-28
Rupees ...	49,56,366	57,02,163	62,34,809

In 1926-27 the United Kingdom supplied 41 per cent., the United States 26 per cent., Germany 12 per cent., France 8 per cent. and

Japan 5 per cent. American competition in the high-grade articles for European and wealthy Indian use, and German competition in the bazaar trade are seriously affecting the extension of the sale of British products.

Articles Imported by Post (*not included elsewhere*).—This postal traffic amounts to nearly £3,000,000 in value :—

	1925-26	1926-27	1927-28
Rupees ...	3,48,78,820	3,72,04,496	4,02,04,171

In 1926-27 the United Kingdom contributed 67 per cent., Italy 11 per cent., and considerable values were also sent by Germany, Belgium, Japan and China.

The exchange of cash-on-delivery parcels between India and Great Britain and Northern Ireland was introduced in 1920-21 and has grown steadily. The following are the returns of the C.O.D. parcels received from Great Britain and Northern Ireland in 1925-26 and 1926-27 :—

Year.	Number.	Value.
1925-26	95,030	£279,934
1926-27	94,837	£290,306

This system has been found to be of advantage to United Kingdom stores and mail-order firms, and is a great convenience to residents in India.

RAW MATERIALS AND SEMI-MANUFACTURED ARTICLES.

Coal.—The imports in 1926-27 were unduly reduced on account of the prolonged coal stoppage in the United Kingdom, and it is therefore not surprising that during the past year the total imports advanced by 121,000 tons and by over Rs.27 lakhs in value.

Countries of consignment.	1926-27		1927-28	
	Tons.	Rs. (lakhs).	Tons.	Rs. (lakhs).
United Kingdom	12,908	3	52,336	14
Union of South Africa	85,788	19	154,586	32
Portuguese East Africa	25,521	5	35,216	8
Australia	12,613	3	8,727	2
Other countries	4,903	1	12,132	2
Total	141,733	31	262,997	58

The following table shows the average prices per ton of Bengal, Cardiff and Natal coal in the Bombay market in 1925, 1926 and the first six months of 1927 :—

	Bengal.			Cardiff.			Natal.		
	Per ton.			Per ton.			Per ton.		
	Rs.	As.	Ps.	Rs.	As.	Ps.	Rs.	As.	Ps.
1925	19	6	3 (a)	29	3	0 (a)	21	15	3 (a)
1926	18	8	9 (a)	24	6	5 (c)	19	1	2 (b)
1927 (6 months)	19	14	8 (a)	No quotation			19	13	5 (b)

(a) ex scales.

(b) Sterling quotations converted into rupee prices at current rates of exchange.

(c) Two-thirds, one-third c.i.f.

Mineral Oils.—The following are the latest statistics of this valuable trade :—

Kerosene Oil.—

Countries of consignment.	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
Russia... ..	—	26
Georgia	—	81
Straits Settlements (including Labuan) ...	18	15
Sumatra	3	—
Borneo	31	64
United States	3,77	3,12
Other countries	—	48
Total imports	4,29	5,46

See " Inquiry into Oil Industry," Chapter III.

Fuel Oils.—The imports were :—

Countries of consignment.	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
Persia	1,32	1,72
Straits Settlements (including Labuan) ...	12	11
Borneo	52	42
Other countries	—	8
Total imports	1,96	2,33

The Anglo-Persian Oil Co., Ltd., supply the bulk of the fuel oils, which are mostly imported through Bombay.

Lubricating Oils.—Batching oils for use in the jute mills of Bengal were imported to the value of nearly Rs.77 lakhs entirely from Dutch Borneo and the United States. Other lubricating oils were derived as follows :—

Origin.	1925-26 Rs. (lakhs).	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
United Kingdom	16	14	14
United States	1,25	1,21	1,11
Other countries	15	12	16
Total	1,56	1,47	1,41

The principal American companies, such as the Vacuum and the Valvoline, have very strong local sales organisations, and British suppliers find it difficult to make headway against them.

Salt.—Foreign salt is chiefly imported into Bengal and Burma, as the consumers in these provinces show a preference for finer crushed salt and they are the most remote from the principal Indian producing centres.

The statistics are as follows :—

Principal countries of consignment.	1926-27		1927-28	
	Tons.	Rs. (lakhs).	Tons.	Rs. (lakhs).
United Kingdom	53,598	14	81,219	27
Germany	57,941	15	56,579	17
Spain	57,332	14	83,552	24
Aden and Dependencies	179,130	39	180,275	53
Egypt	132,455	30	123,212	35
Italian East Africa	54,551	12	56,223	15
Other countries	6,763	2	15,106	4
Total	541,770	1,26	596,166	1,75

Sugar.—In the period under review sugar constituted the third most valuable item of import into India, being exceeded only by cotton manufactures and iron and steel. In spite of a very large indigenous production the needs of the immense population with their vegetarian diet are so enormous that an annual import of £10,000,000 sterling is required to meet them. The subjoined table shows the imports of 16 *Dutch Standard and above (excluding beet)* :—

Principal countries of consignment.	1926-27	1927-28
	Rs. (lakhs).	Rs. (lakhs).
United Kingdom	13	1
Netherlands	3	—
Belgium	4	1
Ceylon	5	6
Straits Settlements	3	4
Java	13,55	13,74
China (including Hongkong)	7	7
Mauritius and Dependencies	—	—
Canada	11	1
United States	26	1
Total imports (all sources)	14,41	13,96

The elimination of almost all suppliers other than Java is noteworthy. Mauritius, which used to be the second most important source of supply, is now entirely out of the Indian market as, owing to the preference enjoyed by Empire sugar in the United Kingdom, the Mauritius crop has been diverted to that country.

Beet Sugar.—There has been a remarkable drop in the imports of beet sugar, which had been expanding of recent years. The figures are :—

Principal countries of consignment.	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
United Kingdom	7	—
Russia... ..	51	24
Poland	34	—
Germany	1,07	3
Belgium	26	—
Italy	7	—
Austria	19	1
Hungary	59	5
Czechoslovakia	64	2
Other countries	13	2
Total	<u>3,87</u>	<u>37</u>

The extraordinary decline in the import of beet sugar is entirely due to the drop in the price of cane sugar, which resulted in a practical stoppage of the import of beet sugar.

The following table gives the other types of sugar imported :—

Description.	1926-27 Rs. (lakhs).	1927-28 Rs. (lakhs).
Sugar, 15 Dutch Standard and below	8	17
Molasses	53	40

The imports of molasses are all drawn from Java, and the imports of sugar of 15 Dutch Standard and below from the United States.

APPENDIX TO CHAPTER V.

VALUE OF IMPORTS FROM PRINCIPAL COUNTRIES, DISTINGUISHING PRINCIPAL ARTICLES.

TABLE A.

Articles.	Pre-war average.	1925-26	1926-27	1927-28
UNITED KINGDOM.		(Rs. 000's omitted).		
<i>Imports therefrom—</i>				
Animals, living	5,02	18,20	13,38	13,67
Apparel	59,29	83,16	86,26	68,36
Arms, ammunition, etc.	30,60	55,58	53,69	55,39
Artificial silk yarn	—	23,80	14,07	46,84
Asbestos	—	14,05	19,43	29,89
Belting for machinery	36,26	62,82	62,17	68,45
Bobbins	—	33,40	30,71	34,30
Books and printed matter	41,05	48,68	47,45	53,01
Boots and shoes	51,33	26,61	29,22	29,35
Building materials	59,89	76,75	64,71	74,72
Carriages and carts	19,11	9,03	9,07	9,05
Chemicals	69,55	1,24,01	1,41,55	1,46,72
China clay	—	13,53	16,56	18,07
Coal and coke	41,33	30,87	6,96	16,44
Cordage and rope	4,39	2,87	6,92	4,37
Cotton—				
Raw	58,67	2,78	44,64	7,58
Twist and yarn	3,35,18	3,13,80	3,08,08	3,09,49
Piecegoods—				
Grey	20,73,55	17,08,36	15,24,09	15,54,39
White	10,87,38	15,08,86	16,57,15	14,19,94
Coloured	11,29,72	11,90,90	12,57,96	12,59,06
Other manufactures	1,40,25	1,76,53	1,53,45	1,55,08
Cutlery	10,53	9,19	9,03	9,86
Cycles and parts	29,40	87,07	91,70	1,00,61
Drugs and medicines	54,03	84,60	86,26	84,23
Dyeing and tanning sub- stances	6,90	12,18	11,30	15,96
Earthenware and porcelain	30,50	29,05	29,95	30,30
Flax manufactures... ..	28,83	31,69	30,00	35,66
Furniture	10,84	9,07	14,45	13,14
Glass and glassware	22,26	26,23	25,47	23,16
Haberdashery and mil- linery	61,21	29,48	27,48	30,10
Hardware	1,88,61	1,97,76	1,84,45	2,06,25
Instruments, apparatus, etc.	1,04,88	2,22,18	2,50,55	2,73,35
Ivory	11,33	9,24	9,84	9,13
Jewellery, etc.	14,51	12,39	27,48	11,03
Jute manufactures	10,09	12,84	9,85	4,84
Leather, including hides, tanned, etc.	38,59	31,80	43,17	44,57
Liquors—				
Ale, beer and porter	45,64	51,09	54,48	63,40
Spirit	69,47	1,34,62	1,35,64	1,36,07
Wines	13,62	11,48	11,94	11,84
Machinery and millwork	4,97,69	11,87,23	10,65,86	12,53,38

TABLE A—continued.

Articles.	Pre-war average.	1925-26	1926-27	1927-28
		(Rs. 000's omitted).		
Metals—				
Aluminium	5,38	22,84	23,08	47,57
Brass	6,13	1,27,96	77,33	89,22
Copper	1,67,45	39,67	28,27	45,34
Iron	28,88	13,70	8,36	10,48
Iron or steel	6,96,13	11,60,99	9,93,24	13,63,91
Lead	13,99	8,88	7,70	7,32
Steel	42,02	49,70	37,29	77,89
Zinc	14,85	13,45	17,70	19,94
Others	27,43	15,79	24,22	23,30
Motor cars and motor cycles, etc.	74,50	1,23,58	1,36,09	1,69,94
Oils, mineral	22,31	21,38	19,56	25,69
Oils, vegetable, animal, etc.	17,76	14,43	15,80	16,92
Packing, engine and boiler	4,98	3,18	3,63	3,86
Paints and painters' materials	56,00	99,89	1,04,52	1,12,19
Paper and pasteboard	73,44	1,16,63	1,09,30	1,09,59
Piecegoods of cotton and artificial silk	—	58,10	1,17,19	99,07
Pitch and tar	8,72	4,03	2,19	2,77
Polishes	9,48	19,89	18,85	21,42
Precious stones	14	16,91	12,48	13,84
Printing materials	14,70	20,50	20,79	24,47
Provisions	1,34,15	1,71,50	2,03,23	2,34,07
Railway plant, etc.	5,54,48	4,24,53	2,00,84	3,71,44
Rubber manufactures, including tyres, etc.	16,45	96,01	88,71	95,59
Salt	23,44	19,55	14,08	26,93
Ships, parts of	18,00	8,70	2,86	15,84
Silk manufactures, including yarn	19,07	9,79	8,67	8,37
Soap	56,52	1,35,67	1,37,10	1,47,30
Stationery	41,44	51,30	45,13	52,62
Sugar	25,37	35,51	41,74	1,54
Tallow and stearine	10,43	9,54	8,65	5,32
Tea chests	41,32	67,52	48,86	60,81
Tobacco	54,83	1,76,23	2,11,97	2,55,23
Toilet requisites	10,35	21,43	23,57	24,32
Toys and requisites for games	16,75	12,97	14,11	15,34
Umbrellas	24,71	18,35	14,75	16,25
Woollen manufactures, including yarn	1,85,24	2,11,14	1,94,84	2,10,56
Other articles	1,49,67	3,97,00	3,50,73	3,63,64
Total	91,58,01	1,15,32,02	1,10,53,85	1,19,20,95

TABLE B.

Articles.	Pre-war average.	1925-26	1926-27	1927-28
ITALY.				
<i>Imports therefrom—</i>				
Apparel	6,98	12,78	16,40	13,00
Art, works of	45	1,45	1,08	1,01
Building materials	2,57	13,02	12,63	13,49
Buttons	—	6,91	12,12	5,44
Chemicals	4,72	6,32	14,34	17,67
Dyeing and tanning sub- stances	1,49	2,20	4,60	12,81
Fruits and vegetables	8,48	15,45	37,23	30,50
Glassware	4,26	8,37	6,37	5,95
Instruments	1,70	8,66	8,13	9,09
Liquors	78	2,46	3,08	3,40
Machinery	1,44	8,22	6,38	12,79
Metals—				
Aluminium	9	3,31	6,80	5,95
Brass	1,09	46	1,16	20
German silver	—	4,46	1,90	1,16
Others	67	6,22	8,13	8,62
Motor cars, etc.	66	29,94	40,10	39,34
Paper and pasteboard	79	3,71	3,56	6,70
Rubber manufactures	13	18,11	5,15	10,53
Stone and Marble	2,48	3,38	3,61	3,62
Sugar	23	3,10	7,88	34
Textiles—				
Artificial silk yarn	—	33,71	64,15	66,24
Cotton-twist and yarn	4,98	6,96	4,36	5,65
Cotton manufactures	45,22	66,78	81,80	96,11
Haberdashery & millinery	4,32	6,67	5,97	8,28
Silk manufactures	19,83	11,85	24,72	23,46
Piecegoods of cotton and artificial silk	—	37,42	80,82	91,31
Wool manufactures	4,07	50,69	69,06	87,61
Other articles	27,41	53,06	84,58	95,54
Total	1,44,84	4,25,67	6,16,11	6,76,31

TABLE C.

Articles.	Pre-war average.	1925-26	1926-27	1927-28
BELGIUM.		(Rs. 000's omitted).		
<i>Imports therefrom—</i>				
Artificial silk	—	6,25	9,01	8,08
Arms, etc.	26	3,96	4,23	2,15
Building materials	4,04	5,59	7,33	4,41
Cotton manufactures, including yarn	42,12	17,02	30,10	25,31
Dyeing and tanning substances	10,28	5,57	9,41	3,60
Earthenware and porcelain	3,45	1,48	1,64	2,09
Glass and glassware	16,92	22,76	26,69	24,42
Hardware	5,58	3,66	4,12	4,36
Liquors	1,50	1,76	1,59	1,61
Machinery and millwork	1,76	29,64	24,61	29,17
Manures	75	9,25	8,15	7,22
Metals—				
Brass	37	3,67	2,27	1,90
Copper	3,54	10,09	21,91	17,39
Iron	15,95	3,23	7,31	1,99
Iron or steel	45,46	1,77,41	1,93,24	2,51,17
Steel	63,54	1,01,60	1,12,00	1,31,43
Motor cars, etc.	4,15	1,38	1,10	1,85
Paints and painters' materials	2,08	2,84	5,38	5,88
Paper and pasteboard	5,00	9,12	11,20	9,66
Precious stones	1	47,19	37,13	62,43
Provisions	1,41	26,95	10,58	25,64
Railway plant, etc.	4,28	27,64	38,65	59,30
Sugar	29	15,92	30,74	1,14
Woollen manufactures	2,11	23,47	15,09	9,43
Other articles	40,61	55,61	66,60	57,00
Total	2,76,00	6,13,06	6,80,08	7,47,63

TABLE D.

Articles.	Pre-war average.	1925-26	1926-27	1927-28
GERMANY.				
<i>Imports therefrom—</i>				
Apparel	14,87	16,07	20,61	24,75
Bobbins	—	2,50	2,48	1,56
Building materials	6,72	2,59	6,93	3,66
Buttons	—	5,06	6,49	7,28
Carriages	2,81	1,08	2,50	1,21
Chemicals	10,62	41,87	52,48	56,86
Cutlery	7,95	22,25	30,29	26,40
Cycles	1,75	12,75	12,96	14,54
Drugs and medicines	6,19	20,63	33,35	45,71
Dyeing substances	87,40	82,36	1,06,05	1,39,57
Glassware	23,69	39,89	51,81	49,10
Hardware	57,24	1,42,68	1,58,32	1,61,15
Instruments	13,57	46,92	52,62	57,31
Liquors	19,41	35,02	39,10	39,96
Machinery	30,27	85,99	94,59	1,04,83
Metals—				
Aluminium	12,16	21,75	18,02	5,15
Brass	1,56	78,89	1,27,24	95,93
Copper	93,41	97,03	86,64	37,05
Iron	2,86	54	9	55
Iron or steel	86,97	98,17	91,31	81,01
Steel	65,19	17,91	33,14	33,25
Zinc	3,24	2,93	13,70	4,47
Motor cars, etc.	5,64	2,84	4,05	5,47
Oils	19,57	49,98	31,40	33,77
Paints and painters' materials	5,58	8,48	10,36	10,90
Paper and pasteboard	21,82	34,16	49,77	35,13
Paper making materials	1,61	7,09	6,72	1,61
Printing materials	1,02	5,19	5,62	7,82
Railway plant	12,19	18,11	27,81	17,85
Rubber manufactures	3,82	16,34	15,21	13,10
Salt	9,46	9,07	15,13	16,87
Stationery	5,04	24,35	24,93	22,95
Sugar	3,84	3,63	1,10,88	3,59
Textiles—				
Artificial silk	—	14,07	33,68	56,88
Cotton manufactures	83,71	30,93	47,29	36,37
Haberdashery	22,10	21,48	36,21	30,51
Silk manufactures	16,81	5,74	8,49	7,53
Wool manufactures	90,62	62,87	67,34	81,96
Toys	11,10	15,13	17,68	15,05
Umbrellas	7,66	17,65	21,45	27,38
Other articles	66,09	1,08,80	1,18,98	1,18,30
Total	9,35,56	13,30,79	16,90,72	15,34,34

TABLE E.

Articles.	Pre-war average.	1925-26	1926-27	1927-28
JAPAN.		(Rs. 000's omitted).		
<i>Imports therefrom—</i>				
Ale, beer and porter ...	3	1,74	2,72	3,38
Apparel	9,17	11,11	13,15	14,35
Bobbins	—	1,68	1,03	1,53
Brass, bronze, etc. ...	7	36,91	33,36	30,56
Brushes and brooms ...	48	70	78	1,30
Buttons of all sorts ...	—	9,68	11,62	8,97
Camphor	11,48	16,62	18,19	17,17
Carriages	11	3,45	5,34	3,85
Cement	1	2,30	3,88	4,21
Chemicals	93	2,72	3,35	3,30
Coal and Coke	7,02	2,73	16	1,66
Copper	27,99	5	6	5
Cotton, raw	9	56	56	4,12
„ hosiery	65,23	1,11,38	1,17,66	1,13,54
„ piecegoods	6,10	6,88,15	6,57,55	8,24,75
„ yarn	6,16	4,24,80	3,20,21	2,23,60
„ other manufactures	2,12	24,06	20,74	19,00
Cutlery	—	31	10	8
Drugs and medicines (other than camphor) ...	1,72	8,50	7,86	5,33
Earthenware and porcelain	4,23	34,84	33,12	32,59
Furniture and cabinetware	71	1,23	1,56	2,26
Glass and glassware—				
Bangles	5	23,67	20,64	25,64
Beads and false pearls ...	7,61	11,06	9,69	7,77
Bottles and phials ...	1,00	10,46	11,80	10,89
Funnels, globes, etc. ...	58	2,62	2,27	2,42
Table ware	1,41	6,07	5,05	5,30
Others	3,35	13,61	16,96	16,74
Haberdashery & millinery	10,88	23,60	14,71	21,97
Hardware	3,59	37,09	28,95	27,40
Instruments	85	5,37	3,91	5,32
Iron or steel	—	15	8	2,50
Leather	38	24	34	43
Machinery and millwork ...	63	2,95	3,02	2,39
Matches	28,40	24,63	10,58	3,47
Paints & painters' materials	—	3,90	3,82	3,40
Paper and pasteboard ...	55	4,60	4,79	7,37
Provisions & oilman's stores	1,57	2,44	3,18	4,64
Rubber manufactures ...	—	1,14	1,20	86
Silk, raw	1,15	1,25	1,28	3,24
Silk manufactures, including yarn	1,31,45	1,29,45	1,37,85	1,57,61
Spices, ginger	3,40	2,41	59	45
Starch and farina	7	26	3	22
Stationery (excluding paper)	2,17	5,25	4,43	5,88
Tea chests	87	26	30	27
Toilet requisites	1,31	3,59	3,06	4,02
Toys & requisites for games	3,16	11,77	11,18	13,55
Umbrella fittings	4,91	13,11	14,27	15,89
Wood—timber	32	13,36	18,94	11,42
„ manufactures	71	2,87	4,04	3,75
Woollen manufactures (including yarn)	8	20,57	11,01	12,01
Other articles	10,25	57,64	40,27	97,77

TABLE F.

Articles.	Pre-war average.	1925-26	1926-27	1927-28
UNITED STATES.				
<i>Imports therefrom—</i>				
Aluminium	4,26	25,33	35,13	37,82
Apparel	33	10,95	11,30	6,95
Arms	80	5,05	4,02	5,32
Belting for machinery	1,11	9,08	11,42	11,86
Boots and shoes	54	5,08	14,41	15,84
Building materials	88	10,91	13,93	16,71
Carriages	72	56	1,10	1,44
Chemicals	22	5,82	6,61	8,77
Clocks and watches	3,82	7,23	6,57	7,08
Copper	—	18,98	2,47	7,69
Cotton, raw	27,72	1,56	2,11,19	4,37,32
" piecegoods	26,44	41,92	45,01	71,45
Drugs and medicines	4,18	13,30	17,68	20,23
Dyeing substances	—	16,77	19,38	14,82
Furniture	1,44	2,18	2,76	3,93
Glassware	1,17	3,86	4,77	5,33
Hardware	24,72	80,83	71,21	62,22
Instruments	5,86	44,81	59,24	63,66
Iron and steel	48,56	81,24	96,49	57,02
Leather	—	5,75	10,11	12,47
Machinery	24,56	1,40,98	1,39,27	1,57,31
Motor cars, etc.	8,49	1,64,45	1,77,90	2,54,83
Oils, mineral	2,19,66	5,56,62	5,40,57	4,61,10
Paper and pasteboard	1,21	13,23	14,76	13,36
Provisions	3,80	33,76	44,09	47,87
Railway plant	54	14,70	20,82	10,36
Rubber	16	37,53	34,74	65,08
Ships	24	3	29	16
Spirit	5,34	13,19	14,11	15,64
Stationery	2,05	4,31	3,60	4,47
Sugar	18	5,00	35,94	1,08
Tobacco	5,90	32,56	39,87	28,81
Toilet requisites	2,22	14,44	15,11	17,82
Wood and timber	6,56	3,76	6,60	8,03
Other articles	15,35	81,58	91,34	89,33
Total	4,49,03	15,07,35	18,23,81	20,43,18

REPORTS by H.M. Trade Commissioners, Commercial Diplomatic and Consular Officers on commercial and financial conditions in the following countries, issued, or in course of preparation, by the Department of Overseas Trade :—

A.—During the year 1927.

Argentina	2s. 6 <i>d.</i> (2s. 7 <i>d.</i>)	Morocco, Algeria, Tunisia, Tripoli and Cyrenaica	4s. 6 <i>d.</i> (4s. 8 <i>d.</i>)
Belgium	4s. 6 <i>d.</i> (4s. 8 <i>d.</i>)	Netherlands	2s. 6 <i>d.</i> (2s. 7 <i>d.</i>)
Brazil	1s. 6 <i>d.</i> (1s. 7 <i>d.</i>)	Netherlands East Indies	3s. 0 <i>d.</i> (3s. 2 <i>d.</i>)
Canada	2s. 6 <i>d.</i> (2s. 7 <i>d.</i>)	New Zealand	2s. 0 <i>d.</i> (2s. 1 <i>d.</i>)
Canary Islands	1s. 0 <i>d.</i> (1s. 1 <i>d.</i>)	Norway	2s. 0 <i>d.</i> (2s. 1 <i>d.</i>)
China	1s. 6 <i>d.</i> (1s. 7 <i>d.</i>)	Palestine	1s. 0 <i>d.</i> (1s. 0½ <i>d.</i>)
Czechoslovakia	1s. 6 <i>d.</i> (1s. 7 <i>d.</i>)	Panama and Costa Rica	1s. 6 <i>d.</i> (1s. 7 <i>d.</i>)
Denmark	1s. 6 <i>d.</i> (1s. 7 <i>d.</i>)	Peru	2s. 0 <i>d.</i> (2s. 1 <i>d.</i>)
East Africa	2s. 0 <i>d.</i> (2s. 1 <i>d.</i>)	Poland	1s. 6 <i>d.</i> (1s. 7 <i>d.</i>)
Estonia	1s. 0 <i>d.</i> (1s. 0½ <i>d.</i>)	Portuguese East Africa	1s. 6 <i>d.</i> (1s. 7 <i>d.</i>)
Egypt	2s. 0 <i>d.</i> (2s. 1 <i>d.</i>)	Roumania	1s. 0 <i>d.</i> (1s. 0½ <i>d.</i>)
Finland	1s. 0 <i>d.</i> (1s. 0½ <i>d.</i>)	Siam	1s. 6 <i>d.</i> (1s. 7 <i>d.</i>)
France	7s. 6 <i>d.</i> (7s. 9 <i>d.</i>)	Switzerland	1s. 6 <i>d.</i> (1s. 7 <i>d.</i>)
Germany	3s. 6 <i>d.</i> (3s. 8 <i>d.</i>)	Turkey	1s. 0 <i>d.</i> (1s. 0½ <i>d.</i>)
Greece	1s. 6 <i>d.</i> (1s. 7 <i>d.</i>)	United States	3s. 0 <i>d.</i> (3s. 2 <i>d.</i>)
India	4s. 0 <i>d.</i> (4s. 2 <i>d.</i>)	Report on the Japanese Cotton Industry	3s. 0 <i>d.</i> (3s. 2 <i>d.</i>)
Italy	3s. 6 <i>d.</i> (3s. 8 <i>d.</i>)		
Latvia	9 <i>d.</i> (9½ <i>d.</i>)		

B.—During the year 1928.

Argentina	(<i>In preparation</i>)	Japan	3s. 0 <i>d.</i> (3s. 2 <i>d.</i>)
Australia	3s. 0 <i>d.</i> (3s. 2 <i>d.</i>)	Jugo-Slavia	1s. 6 <i>d.</i> (1s. 7 <i>d.</i>)
Austria	1s. 6 <i>d.</i> (1s. 7 <i>d.</i>)	Lithuania	9 <i>d.</i> (9½ <i>d.</i>)
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