THE NEW INDUSTRIAL SYSTEM

THE NEW INDUSTRIAL SYSTEM

A STUDY OF
THE ORIGIN, FORMS, FINANCE, AND PROSPECTS
OF CONCENTRATION IN INDUSTRY

BY

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PREFACE

The Author wishes to say that he is neither an Individualist nor a Planner. When, as one of the first, he tried to describe and analyse industrial combination in England, which was then regarded with suspicion and incredulity, it had become clear to him that the new type of organization was based not upon accidental circumstances but upon fundamental economic laws. To-day, when distrust has given place to recognition and even the desire to promote the quasi-monopolistic organization of industry as a means of stimulating new prosperity, it has again become imperative to point out that concentration in industry with combination as its natural outcome should not be regarded as being the effect of new insight on the part of industrialists nor as a device or cleverly thought out plan which, if once fully grasped, may be everywhere effectively applied. To-day, as before, it has to be emphasized that concentration in industry is the outcome of fundamental necessities, which may be checked or supported by deliberate action of industrialists or national economic policy, but which can neither be "created" nor finally suppressed. The nature of these fundamental laws will be described in this book. Industry as a whole presents to-day a new aspect. Concentration is new. Industrial combination is new. The interlocking of finances is new. The role of banks in regard to industry is new. The domination of financial

capital over large sectors of industry is new. It would be vain to contend that all this is primarily the result of certain modern and ingenious methods of treating industrial organization, eliminating competition in favour of " organization ". All such endeavours and reasoned plans would have proved impossible of realization if they had not been based upon the development and progress of new world-economic conditions resulting from and manifesting themselves in a revolution in transport, the creation of concentrated mass supply and mass demand, a change in the distribution of raw material supplies and the adaptation of the technical and economic structure of the industrial unit to these new material conditions. It is this sense that the Author hopes to have been justified in giving to his essay the title of *The New Industrial System.*

HERMANN LEVY.

THE NEW INDUSTRIAL SYSTEM

PART I

PRELIMINARY STATEMENTS

§ 1. *The term "Organization"*

In these days of prolonged economic depression the term "industrial organization" has acquired a new and specific significance. The term is scarcely ever used or pronounced without there being an idea in the background of setting something in order, which has been thoroughly muddled up for some time. In fact "industrial organization" in this sense is meant to represent a new order of industrial affairs—and even more than that. To many people it means that there has up till now been very little order at all in industry.

"Organization" is used to denote a sort of well thought out administration of industry, partly by private interests, partly by the State, or by both, a conglomerate of regulations adapted to the needs of manufacturers and national economy, coupled with such modern industrial developments as industrial combination and all kinds of mutual arrangements. Some people regard this new order which confronts industrial development as due to, and to be explained by, economic depression after the War and they affix to it such explanatory catchwords as "Reconstruction" or "Reorganization" or "Planning". Others reject this kind of rather accidental explanation in favour of something intended to represent a deeper analysis of the structural dynamics of industry.

They conceive of industrial organization as taking the place of a sort of chaotic state of industry called the competitive system. This system was according

to them no organization at all. It was of itself " unorganic ". Industry in the days before the new development of " organization " was not according to these views subjected to any other system meriting the name of organization. It was simply left to Providence or to the " hidden hand ", the meaning of which has been ingenuously explained and criticized by C. Deslile Burns. Administration merely meant, as the author of *Planning* puts it,[1] " sporadic negative interference," which of course could not be called organization—this being " conscious positive flexible control ".

While in England the " new order " has mainly been treated and propagated by writers and others interested in politico-economic affairs and present-day developments such as " rationalization ", protection for industry, " planning," industrial combination, etc., in Germany the changing tendencies became at an early date a starting point for much new and invigorating academic discussion. Werner Sombart, in his elaborate study of economic development in the period of " High "-capitalism,[2] tries to show that this era has suddenly come to an end after showing signs of a downward development in the years immediately preceding 1914. The signs of such change are, in his opinion: the permeation of the naturalistic status of capitalism by normative ideas—by which is meant the growing tendency towards organizatory administration in industry; the dismissal of the principle of profit as the only guide to economic behaviour—by which is meant the growing influence of social obligations in industry; the weakening of energetic forces and tension in industry—by which he probably means the growing preponderance of the action of " bodies " over individual initiative; the cessation of big jumps

[1] Cf. *Planning*, No. 35, 9th October, 1934.
[2] Cf. Werner Sombart, *Das Wirtschaftsleben im Zeitalter des Hochkapitalismus*, München, 1927.

in industrial development; the replacement of free competition by a system of agreements, and lastly the constitutional organization of works. All this is considered by Sombart as the unmistakable signs of "high-capitalism" getting old: "it is the first teeth, which are falling out, it is the first inclination to an *embonpoint*, the first grey hair." In short, industrial capitalism as it was, an exclusive domain of individual atomistic enterprise, is said to have reached its climax. The period of dynamic development is over and that of static organization has begun.

Thus a new epoch in the structure of industry, in fact the epoch of organization, is predicted as the result of a good many modern changes in its development. There are always sceptics on the one side and enthusiasts on the other, when signs of a new development begin to manifest themselves in economic life. It may be doubtful whether in any case students of economic conditions are entitled to judge whether a present movement means a new epoch or not. It is certainly very risky to claim the permanence of developments which, regarded from the broader platform of later events, may prove to have been more or less transitory. It would be better to leave such indictments to History. There was a time when large farms in agriculture seemed the *non plus ultra* of agricultural and economic wisdom. Nobody dreamed that the conditions making for large-sized holdings were relative and that a renaissance of small farmers would ever occur. Yet that is what happened. And the hasty theoretical conclusions drawn between 1925 and 1929 from the American boom, with the prediction of an entirely new era of technicalization with decisive social and cultural effects, should be another warning. But on the other hand a mere scepticism, based upon the naïve contention that everything will go its old way, if only it is left undisturbed by certain artificial aids or stimuli, seems to be just as liable to error.

An interesting example of such an attitude is to be found in the views formerly held on industrial combination in England. Patrick Fitzgerald writes, in his well-known study on the subject in 1927, that " not many years ago " it was the custom to regard the trust movement as purely alien ; England, as the stronghold of free trade and of economic individualism, was, in fact, considered to be permanently safeguarded against those monopolist tendencies which were so marked a feature of foreign industries.[1] Yet people having some knowledge of English industrial organization should long since have known that the country abounded in a great number of cartel-like associations and trust-like fusions, as the movement had been described at length by Mr. Macrosty and myself before the War and the Report on Trusts of 1919 had expressly stated that " associations and combines . . . may within no distant period exercise a paramount control over all important branches of British trade ".

The causes of such incredulity in regard to undeniable facts were various, but perhaps the chief was that sceptics did not like the idea that a real revolutionary sort of organization was going on within industry. The belief in free competition was blinding their eyes and preventing them from seeing things as they were. Cartels and trusts in British industry were considered to be merely exceptions due to certain specific and more or less abnormal circumstances and conditions. Industrial combination was regarded exclusively from the point of view of mischievous monopoly, but never from that of an essential structural change.

How deep-rooted this kind of attitude may be has been recently illustrated by the fact that even so enlightened a writer as Professor Lionel Robbins

[1] Cf. P. Fitzgerald, *Industrial Combination*, London, 1927; and also Hermann Levy, " Industrial Combination—England's New Attitude," in *The Nineteenth Century*, July, 1934.

of the University of London still adheres to it. In his book on the Great Depression he asserts, that "industrial monopoly, where it does not depend upon natural monopoly, is usually the by-product of Protection or a system of trade marks and patent legislation definitely inimical to competition".[1] Here, then, forms of industrial organization which to-day characterize the most important branches of industry in the world and which, either in the form of dominant concerns (which, of course, need not always be trusts in the strict sense) or in the form of powerful associations, dominate in English industry are treated merely as a sort of abnormality or exception from the rule of the competitive system. To treat them from the point of view of structural novelty has not even been attempted. They are merely regarded as diverting the traditional stream of the industrial system into some unnatural direction. What appears to some people to be a sensational manifestation of a new era of industrial structure appears to others to be the outcome of a series of accidental circumstances or of wilful interference, both having the effect of changing (probably for some time) the "natural" face of industrial conditions.

Both attitudes have their practical consequences. Those who hasten to claim that certain indisputable changes in industrial organization represent an entirely new order of things have in general the same feelings whether they be organizers or propagandists. They are keenly enthusiastic about the symptoms they discover in regard to their favourite "movement" and they do not refrain from crude generalizations. We have had times, as far back as 1900, when many people were asserting that the day of industrial "Americanization" had arrived and that European markets would be swamped with U.S.A. manufactures, if U.S.A. methods of production were not swiftly

[1] Cf. L. Robbins, *The Great Depression*, 1934, S. 189.

adopted. After some time it became evident that not even American shoes were successfully swamping European markets.

After 1924 came the wave of rationalization. While sceptics claimed that in principle "rationalization" was not much more than what technical progress had always been, and justly warned us against applying rationalization as a "new principle" without taking regard to the old rule that technical progress was dependent on the capacity of markets to buy more goods, others became all-round rationalizers. Disappointment came quickly. The "era" of rationalization was almost over in 1929. It was followed by severe depression, partly due to an exaggerated expansion of technical productivity. The principal exponent of the new "era" felt the depression even more than its European followers, and among the latter Germany was more severely affected than England, which had been remarkably reluctant in applying the new "principle" to its industry. Aggravated depression was creating an outcry for better "organization". As certain developments of associative and administrative arrangements in industry had become patent and shown themselves to be partly successful in various ways, "rationalization" was abandoned for "planning". But the experiences of the "rationalization fever" were not forgotten. And it is a fact to be appreciated if academic sceptics like Professor Macgregor of the University of Oxford ask: "... shall we, ten years hence, be speaking of the 'planning fallacy'?" The dangers of what Macgregor rightly calls "fluctuation of thought" ought not to be minimized. While the sceptics may succeed—simply by traditional considerations which in fact may be antiquated—either in holding back a movement which might be based upon a quite natural development, or even in preventing such a movement to some extent,[1] the

[1] Cf. the opposition to small farming during the eighties and nineties.

enthusiasts may go too far in the other direction, i.e. by trying to push a movement beyond its potential limits. "They rode the horse of rationalization harder than the pace of industry could keep up with," is one way of putting it.

It must be taken for granted that there can be much harm done in both ways. And it is not easy to show the way out of this Scylla and Charybdis. For the question arises: how can we decide whether a development in industry is really organically "sound" and what its "natural" limitations are? This will be to some extent a matter of subjective valuation. Let us give a forceful, if perhaps somewhat complicated, example. The growth of industrial combination has raised the problem of exclusive agreements or boycotting clauses. Those who are of the opinion that industrial combination ought to be prevented for the sake of individual independence would undoubtedly like to see the Courts bring in a judgment forbidding or preventing a quasi-monopoly of, say, 75 per cent of the manufacturers in any branch of industry, from effecting exclusive agreements intended to force outsiders either to join their ranks or to give up trade. Those who are of this opinion are anti-monopolists and pro "freedom of trade". But if industrial combination is to be considered as a modern form of concentrative or associative organization of industry, the protection of the 25 per cent of outsiders would in fact mean State interference to protect minorities against what may be considered the progressive element in the branch of industry concerned. It would come to the same effect as a law protecting the craftsman against the factory, and such action as this would probably be staunchly rejected by the very "individualists" in question. Shall we forget that in the early days of trade unions these were attacked as being monopolistic conspiracies of workmen endangering individual liberty of action? It took a good long time before

public opinion could be persuaded that trade unions were not designed to create monopoly, but that their right of existence was vested in certain economic and social necessities. To prove this, books like the classic work of Professor Brentano were necessary. But scholarship would not have been sufficient to destroy deep-rooted prejudices, if the strength of the development of labour organization had not created a *fait accompli* against which argumentation was finally of little value.

This then may be taken as a hint how to overcome the aforesaid difficulties and alternatives. We must concentrate our attention on a broader and deeper knowledge of the actual weight of certain movements and developments in regard to economic organization. We must not take the success or safety of a movement for granted because there exist some " good examples ". We must not use such examples in a merely deductive way, just as a means of illustrating some ideas cultivated in the lofty garden of theory. We must not generalize experiences of certain developments without having made sure that such development owes its existence to certain conditions necessary to its progress. It is in general much more difficult to get behind these conditions than simply to start out from what has been their effect. It was a great mistake to " believe " that the system of instalment selling, which expanded rapidly during the American boom of 1924–9, was some sort of a new " era " of distribution, without taking the most careful regard of all those specific circumstances of credit inflation which had been in the background of this development. While Professor E. R. Seligman edited in 1927 a very elaborate and thoughtful study on the " economics "[1] of instalment selling, a very intelligent Report of 1931 had to make the statement that " this 6,000 million

[1] Cf. Edwin R. A. Seligman, *The Economics of Instalment Selling, a study in Consumers' Credit*, New York, 1927, two vols.

dollars of instalment sales, or at least three-fourths of it, certainly represented debt inflation ".[1]

While the instalment system had been regarded by most of its apologists as the greatest prop of American prosperity, it became evident after 1929 that it had been credit inflation, with all its effects on incomes and prices, which had created "prosperity" and the specific means for its utmost exploitation. There may be no doubt that instalment selling has its merits. But it has its limitations as well, and it should not have been regarded as revolutionizing distribution. Just the same applies to the attitude towards industrial combination. The existence of a great number of " successful " cartels and trusts should not be taken as a proof that industries everywhere ought swiftly to embrace industrial combination. The non-existence of associations here or there should not be taken as a proof of the slowness of manufacturers in marching with the times. In both cases the specific conditions making for industrial combination should be at first discovered. If they are made manifest, and only then, it will become possible to judge whether industrial combination may be applied or not, and whether its non-existence is due to economic impediments or to the lack of associative common sense among manufacturers.

This point seems important. Organization may be taken in a two-fold sense. It is certainly erroneous to contend that the " competitive system " was chaotic in contrast with the system of " organization ". In fact, the competitive system was the adequate organizatory expression of the industrial structure of its time. It would seem just as foolish to expect two or three hundred manufacturers to " combine ", as it appears sensible that twenty or thirty firms should form a combination. To define modern developments as

[1] Cf. Department of Overseas Trade, *Economic Conditions in the U.S.A.*, London, 1931, pp. 8–9.

representing " organization " while industry between 1750 and 1900 had none, is a gross misunderstanding of that industrial period. One might just as well contend that horse carriages and carts were an entirely mistaken system of transport in comparison with automobiles. Modern and specific conditions of mass distribution have been active in creating the huge meat " factories ", the beef industry of the American Middle West. Nobody, however, would venture to contend that the butcher's shop has been a mistake, that one could have this industry everywhere, and that it would have been possible to replace the local butcher long before, if only the " idea " had been realized earlier.

The competitive system certainly meant a new kind of " organization " of industry to those who in the days of its birth were fighting for the conservation of gild or paternal administration of manufacturing and mining. If there *was* a mistake it was merely on the part of economic philosophers who tried to identify this new system with some law of nature and to establish it as the sole and unalterable system of organization. In Adam Smith's eyes monopolist organization or quasi-monopolist organization, as we would call it to-day, was only possible under some form of State aid. In this contention he did not differ from that of Professor Robbins, who is writing 150 years later.[1] Indeed, Professor Robbins holds that the great classic's contention is just as " applicable now as it was then ". And he, like Adam Smith, seems to believe that reasonable self-interest will prevent manufacturers from combining unless State aid in the form of protection or intervention changes their " natural " instincts. Professor Brentano, who certainly cannot be accused of being an anti-individualist, replied to this argument long ago that the " principle of coalition " may be just as well in the self-interest of manufacturers as

[1] Cf. Robbins, loc. cit., pp. 139–140.

that of " competition ". We shall see later on that the contention that industrial combination would be impossible without State aid is entirely mistaken. But, of course, this contention is necessary if the argument of competition being the " natural " order of things is to be maintained. And the classical school was only too liable to deduce a permanent principle out of developments taking place in its daily experience.

This should be a warning to those who theorize about modern industrial organization. While the era of free competition certainly was " organization ", the principles deduced from this new organization were open to misgivings. While there is no doubt that we have entered a new phase of industrial organization, within which the independent action of the single entrepreneur is largely replaced by concerted ideas and administration, it would be certainly fatal, if this development were to be considered as exclusively representing " organization " and as being the only adequate type of organization in industry. We must first find out to what conditions of technique, production, distribution, and finance this kind of organization is to be attributed, and such a study will certainly prevent us from making deductive generalizations. It will also prevent us from considering the former system as no " system " at all, or a mere chaotic situation, since in fact a study of the conditions being responsible for the one will simultaneously disclose the conditions which were responsible for the other. It is indeed this relative method of approaching economic developments which will save us from under-estimating the one epoch and over-estimating the other.

We may certainly use the term " industrial organization " in both ways. There is no reason for precluding the term from the epoch of " free competition ". Wherever we try to group the conditions appertaining to a field of economic activity

in a systematic way we shall arrive at some " organization ". In this sense the era of free competition certainly represented organization. On the other hand, we may use the term to denote the more or less thoughtful endeavour of manufacturers to influence and regulate the general conditions surrounding their particular industry, or national, or even international, industry as a whole. It may seem paradoxical to call this the organizing of organization. But it has some justification when one considers that under the former system organization was mainly left to circumstances and not to the deliberate will of either the State or the private interests in question.

§ 2. " *Idea* " *and* " *Organization* "

Looking back in History one finds that industrial organization, in its changing aspects, can hardly be attributed primarily or exclusively to the force of a " new idea ". When Freedom of Trade or *Gewerbefreiheit* was inaugurated on the Continent at the end of the eighteenth and the beginning of the nineteenth century, it was certainly associated with a great deal of philosophical and scientific work. It cannot be disputed that the ideas and suggestions propagated by the then existing school of liberalism, by the Physiocrats in France, and also by the English system of philosophy, so far as it was based upon the principles of individualism and an atomistic conception of social organization,[1] had much to do in pushing forward the movement in favour of freedom of industry. But by the same sceptical insight, which induced Adam Smith not to believe in the swift realization of his doctrine of free trade, one is led to the conclusion that the force of theoretical arguments

[1] Cf. Hermann Levy, *Economic Liberalism*, London, 1913, p. 86, ss. " Philosophical Influences ".

would hardly have been strong enough to revolutionize industrial organization from gilds and State-controlled manufacturers to the ultimate freedom of the producer, if there had not been very material forces behind the movement. It was the incompatibility of the old systems of organization with the growing requirements of large scale production, and the rise of the factory with its quite different needs in regard to the organization of work, which gave the decisive blow to the gild or paternal organization of industry. In fact, in England, the theoretical interpretation of these conditions, culminating in the scientific eulogy of competition and enlisting the so-called " private " necessities into the ranks of national principles of Wealth, came at a time when the actual fight for industrial freedom was long over, since monopolies had been definitely abolished by the end of the seventeenth century and the gild domination had shrunk to practical insignificance by the middle of the eighteenth century. In Germany, however, where the movement for freeing industry set in much later, the philosophical doctrines accompanying it were neither so enthusiastically preached nor so comprehensively accepted as in England or France.

We should not underrate the function of " ideas " in regard to industrial organization, nor should we underrate the influence which a certain attitude of mind may have on the actual development of this or that organization. It may be taken for granted that individualistic feelings among English manufacturers, a certain traditional love for the family business, a deep-rooted suspicion respecting neighbours who were manufacturers, and last but not least the pronounced stamp which the theories of classical economic liberalism had left upon the mind of the English manufacturer, have been factors retarding the growth of industrial combination. But, one may ask, has the force of these psychological circumstances at any time prevented

English manufacturers from combining when there was a real chance of doing so with profit? It is a fact which is unfortunately too little known that the first really efficient and very powerful cartel known to have existed in international industry was no "alien" invention, but is to be found in England. England, in fact, possessed in the thirties and forties a coal cartel of an absolutely modern type. This combine was called the Limitation of the Vends or Limitation of Vends or sometimes the "Newcastle Vend". It is first traceable in 1771, but its first beginnings go back to the seventeenth century.[1] It broke down in 1844. This combination should not be regarded as anything like a loose arrangement between coal-mining firms. It was a modern cartel in its truest sense. It had a most elaborate statute of its own, which actually had no less than thirty-three paragraphs, binding its members in a very strict way and showing an absolute resemblance to the much later statute of the Rhenish-Westphalian Coal Syndicate. It even possessed a terminology expressly invented for the use of its organization, so that one is entitled to speak of a sort of English cartel terminology of that time. For example, there was the "basis", a somewhat imaginary figure representing the supposed maximum output for every colliery; then the "allotment", the proportion which was fixed from time to time, in which every mine was allowed to produce and sell coal. This term "allotment" is probably the first of its kind which may be grouped along with the many terms used to-day with reference to the division of output such as "quota", allocation, etc. This early English cartel tried hard also to bring the distributing trade into line, by making definite arrangements and concluding agreements with the organizations of the wholesale coal trade in London —a fact which also bears a striking resemblance to the

[1] Cf. Hermann Levy, *Monopolies, Cartels, and Trusts in British Industry*, 2nd ed., 1927, p. 106 ss.

tendencies at present prevailing in coal combinations on the Continent. Thus it was England with her individualistic attitude which gave to the world the first example of genuine cartelization.

While we should therefore be very careful before attributing certain organizatory tendencies in industry to psychological conditions, there can be no doubt that " ideas " or conceptions may be active in pushing forward existing structural tendencies, just as they may be active and more or less successful in trying to check them. When once the movement of cartelization is started in a country it has become the common experience for combines or associations—which have very little prospect of duration—to be formed simply because some manufacturers or promoters may hold the opinion that industrial combination, being the modern idea of industrial organization, can be successfully applied everywhere. In Germany this case has of late been very frequent. Cartels of this sort have been called " Mogelkartelle ", i.e. Mock-cartels.[1] In 1934 the German Government gave expression to its aim to diminish the number of cartels or syndicates, which owed their existence more to a sort of " over "-organization than to economic conditions. In the same way centralization may in many instances be carried too far, simply through the inclination of leading manufacturers or businessmen to overrate its advantages. The *Stahlverein*, the German steel trust, had to be subjected to a programme of reorganization in 1933–4, with the main object of decentralizing part of its organization and of getting rid of certain undertakings which had been too rashly combined with the nucleus of the trust when the wave of centralization had been at its height.

It would probably not be difficult to discover that in most cases of " new " organization the " idea " has

[1] Although " mogeln " is some sort of " cheating ", this translation would probably come nearest to the English idiom.

followed practical events and has by no means created new structural conditions of organization. On the contrary, there are plenty of examples to show that "ideas" or "movements" have overstated their case, that in many cases they have been approaching or invading fields which were not adapted to the new system of tilling, simply because it is inherent in all forcible arguments to be driven to generalizations and because there is a tendency to apply a principle anywhere and everywhere regardless of the necessary, though passionless, study of differential economic conditions.

We must therefore reject the contention that the principle of competition was "wrong" and that the new "idea" of coalition or "organization" is right. We must accustom ourselves to think in relative terms and to discover the differential and changing relations between conditions of production and distribution on the one side and the systems and forms of organization on the other. This alone can prevent us from being misled into an attitude which would be taken mainly from the very unobjective conclusions drawn from the circumstances of our daily perspective, or from casual experiences raised to a sort of standard-type which in fact they may not represent at all.

Part II

THE MODERN EPOCHS OF INDUSTRIAL ORGANIZATION

§ 3. *The Forms of Industrial Capitalism in Economic History*

Large sections of industry are characterized to-day by a system of organization which, in contrast to the former development, may be called that of combined or concentrative control. In stating this we want to limit our analysis mainly to private industry and leave out of account that already vast and important field of industrial organization covered by the "Public Concern", especially of local undertakings operated by the Local Authority itself, such as the Public Utility Undertakings connected with Gas, Electricity, Electric Supply, Tramways, Water, Housing, etc. If we speak of combined and concentrative control in private industry we mean the domination which big concerns, huge undertakings, holding companies, cartels, amalgamations, international cartels or combines, etc., have acquired over formerly independent individual manufacturers or companies.

For a long, perhaps too long, time this movement has been viewed exclusively with the object of discovering and searching the monopolist side of it. Certainly all this sort of concentrative organization may contain and indeed does in general contain the germ of cartelization or trustification, or will at least facilitate the formation of industrial combination. In this respect it matters very little whether amalgamations are carried out for the purpose of more effectively utilizing

monopolist conditions or whether existing monopolist tendencies in the structure of a certain industry lead by themselves to concentrative forms of organization, as for instance in the case of the vertical combination of industrial units sometimes being the forerunner of large concerns. There is undoubtedly a link between the new forms of concentrative development in industry and cartels or trusts. But we must, on the other hand, beware of regarding the movement towards the new forms of industrial organization as being exclusively designed to create monopoly. In fact the monopolist side of them does not in any way exhaust their significance, and it may be considered doubtful whether it is their essential part. Macgregor, to whom we owe a great number of clever remarks, expresses this quite correctly when he says " that monopolistic purpose is difficult to distinguish from higher organization and in the last fifty years the latter has had the suspicion of the former ". And again :

> " A ' higher organization ' in an industry looks the same outside as a monopolistic construction."

It is worth while to emphasize this truth over and over again, since even in our days, as mentioned before, some people seem to find it hard to make this necessary distinction. Thus in the eyes of Professor Robbins modern industrial monopolies seem to be nothing else than the vicious device of some capitalists to exploit certain economic conditions and protective measures granted by a misguided policy of the State which is bolstering up industrial combination by tariffs and other support.

It would be fatal to the further progress of economic knowledge and research if it were not at least to be generally understood that new forms of organization of a much deeper significance than " cartels " and " trusts " are characterizing the new departure of the industrial structure of to-day. If we look into

economic history we find that the forms of modern development of industrial capitalism are not quite without precedent. Early modern capitalism in industry—this ought to be carefully distinguished from "capitalism" in general, since modern capitalist organization of commerce, for instance, goes back to a very much earlier date than that of industry—manifests itself in three different forms: there are the old handicrafts and gilds, which during the sixteenth and seventeenth centuries, and sometimes later, lost their "independence" in favour of capitalist organization; there is mining, which was at an early date administered on associative principles,[1] but was more and more subjugated to capitalist domination, greatly facilitated here and there by mining laws, special privileges of the State, and in England up to 1689 by the rights of the Crown[2]; and there were, thirdly, the early industrial monopolies—especially in the new manufactures in the seventeenth century in England and the eighteenth century in France, Germany, and Austria—granted to individuals like "patentees" and "projectors" in the form of privileged companies, or administered by the State itself as *manufactures royales*. Of these three forms of early industrial capitalism, that which relates to handicrafts is the most interesting from the standpoint of our present theme.

In England, in the sixteenth century, and still more throughout the seventeenth century, a large number of handicrafts or groups of handicrafts were financed by capitalists and so were gradually converted into capitalistic industries. In Germany this system of financing and dominating small craftsmen is called "Verlagssystem"; this has generally been translated as, or identified with, the English "domestic system",

[1] In Germany by "Gewerkschaften".

[2] For this and further particulars about early industrial capitalism, cf. Hermann Levy, loc. cit., *Monopolies, etc.*, p. 20 and *passim*.

but it differs from the latter, in so far as it has a definite capitalist basis, while it differs from the ordinary factory system in so far as the workman does his work at home. The " Putting-out " system does not seem quite a satisfactory term for it either. The extremely complicated process by which, in England, independent craftsmen gradually came to have " indirect dependence on capital " has been reconstructed with excellent illustrations from authorities by George Unwin. Much valuable material has lately been added to his pioneer research work by A. P. Wadsworth and Julia Lacy de Mann as regards the early modern development of one important branch of industry. They have been able to show that in the English textile industry, as early as the seventeenth century, the domination of commercial capitalism over small crafts had assumed remarkable dimensions, so that in 1736 two brothers employed 600 looms and 3,000 persons in the Blackburn district, a little before 1750 a Warrington sail-cloth manufacturer employed 5,000 persons, in 1758 a small group of Manchester check-makers employed a great many of the weavers of Ashton, Oldham, and Royton, and one spoke of employing 500 himself.[1] Traders in foreign goods, overseas merchants, and all sorts of middlemen formed a new class of capitalists who, by their command over money, gained the mastery over the craftsmen and their gilds. But, of course, the class of such early industrial " capitalists " was in no way restricted to these alone, in many cases the capitalist entrepreneurs who gained a hold over the independent craftsmen came from the very ranks of these men. In some cases this was facilitated by an opportunity for creating a monopoly. This was the case with English tin mining. The tinners and smelters had become capitalist " masters " as early as the end of the sixteenth century.

[1] Cf. Alfred P. Wadsworth and Julia Lacy de Mann, *The Cotton Trade and Industrial Lancashire*, 1600–1780, London, 1931, p. 211 and *passim*.

This process was interrupted by tin mining becoming a monopoly of a few capitalists. The entire control over the tin market came into the hands of the monopolists and a further capitalist development followed. Competition among the buyers of the raw product from the independent producers was suppressed, and the bulk of the sellers found themselves faced by a single buyer who could economically oppress them. When monopoly was abolished, between 1650 and 1660, there arose once more, we are told, a great number of independent miners. The time had passed when a single individual was financier of the entire tin mining trade. But industrial capitalism had not changed. Gradually the capitalist smelters became the economic masters of tin mining.[1] Monopolist organization, just as in our days, meant a climax in the development of capitalist domination of an industry, but even without monopoly the underlying tendency of capitalist structure was not altered, as perhaps formerly independent miners had hoped it would be; it was simply a less centralized capitalist control which ensued. Just as in our time a dissolution of a trust or the weakening of the power of a monopolist association may increase the "independence" of outsiders, while at the same time the domination of certain huge concerns in the trade, even if not amalgamated or cartelized, may remain characteristic of its structure and the balance of economic power.

It may be useful to bear in mind that, as is shown by these organizatory developments, it was by no means the factory system of the epoch of the great inventions which was the first form of modern industrial capitalist organization. Indeed, the financing of small crafts by capitalists, which represented one of the original forms of genuine modern industrial capitalism, was much earlier. So it was not machinery of the "industrial revolution" kind which created

[1] Cf. Hermann Levy, *Monopolies*, loc. cit., p. 54.

early industrial capitalism. As modern machinery displaced handicraft work and home labour, the system of " putting-out ", the " Verlagssystem ", was simply replaced by the factory system, that is by a new technical unit of production concentrating and centralizing work away from the home of the workman and taking from him even that last vestige of independence which had consisted in a certain freedom in the organization of his work and working day. So in fact, historically viewed, the factory system was the second form of industrial organization of modern capitalist industry.

The transition from the first form to the second, from the capitalist domination over the handicrafts or gilds to the factory system, meant nothing else than the lessening of the financial power of the capitalist in favour of his direct domination over production. The essential fact seems to be that the financial power of the capitalist in respect of his " branch " of industry was certainly diminished. The capitalists who " put work out " had had a dominant control over large sectors of an industry, as can be seen from the study of de Mann and Wadsworth. To mention one example, in the Lancashire woollen district " three families virtually controlled the trade of Rochdale and surrounding valleys ". This domination was, of course, much more pronounced where the putting-out system or other fields of early capitalism in industry coincided with some sort of monopoly, as in mining or in the " new " industries set up by promoters of that age. The factory system entirely changed this aspect. It has been the common view to consider the rise of manufacturers and factories as the very begining of capitalist domination. This is certainly true so far as social relations are concerned. It is the factory system which created the wage-earning workman on the one side and the capitalist producer on the other. But if one views the rise of

modern machinery and the factory from the point of view of the forms of industrial organization, that is of economic and financial organization in industry, a different conclusion has to be drawn. Then, in fact, the producers' position was not strengthened by the new technical progress and its effect on the unit of production. While in the days of his domination over handicrafts and in the period of monopolies, the capitalist entrepreneur clearly exercised a control over his branch of industry or over large sectors of it —so, in fact, bearing a resemblance to what we call to-day a dominant concern, if not to a cartel or trust —nothing of the sort happened during the first three parts of the nineteenth century under the system of inter-competition among factories in industry. The manufacturer had certainly become a powerful master over the working man and he was almost entirely master in his own industrial " home ". But he certainly did not control the economic conditions of his branch of industry by anything approaching financial control. Indeed, the balance had changed from the capitalist endeavour to control industry concentratively by financial power, to the much more modest capitalist position of the single producer who merely wished to remain financially independent— apart from his normal credit needs. While in the sixteenth and seventeenth centuries and up to the end of the eighteenth century the capitalist as " merchant manufacturer " was at the same time the producer, as well as one of the great number of various types of " middlemen " and large " commercial capitalists " through the hands of which passed both raw materials and finished products, the factory form of industrial organization was definitely revolutionary in that it drew a clear cut line between the producer on the one side and the merchant on the other. The capitalist who combined both functions, being partly a merchant or at least controlling

to some extent the commercial distribution of goods, and partly connected with production by financing and controlling the craftsmen, was driven into the background of the productive sphere of industrial organization. The owner of a factory was able to finance his business either out of his own money or in the regular form of credit without being driven by such credits into being dependent on his money-lender concerning his methods of production, as had been the case with the " putting-out " capitalist and the craftspeople. Viewed from this angle the factory system, curiously enough, did not mean a progression in industrial capitalism. On the contrary, it meant a liberation of the producer from the claws of the capitalist, only that now the producer was himself a capitalist which the small craftsman, especially in the time of his greatest prosperity, had not been. But the single manufacturer-capitalist differed from the former merchant-capitalist-manufacturer in being exclusively confined to his own unit of production. Being nothing else than a manufacturer, the aim of the new type of industrial capitalist was not to acquire a more extensive domination over whole fields of distribution and to control the sales of whole sectors of the trade, but simply to get rid of his own product in competition with others in his branch of industry through the normal channels of trade, in the influencing of which he took no direct interest.

One may therefore speak, in reviewing the forms of industrial organization of that epoch, of a transition from a form of organization which was based mainly upon the financial preponderance of industrial capitalists, to a form of technical or productive preponderance. It was the producer who stood in the forefront of industrial efficiency during the epoch of the single-unit-factory system. It was the unit of production, that is the factory, which by its technical and economic outfit was responsible for the profits

great or small of the producer and it was neither the merchant or commercial capitalist, nor his capital, nor the capital of anybody else, which ruled or controlled the ways of production.

There can be no doubt that this epoch has come to an end in our days. It cannot be disputed that the destinies of many producing units of industrial production are governed to-day by the power of capital and financial control which has its essential base outside the single unit of production. In Germany, as will be seen later on, banking capital has played a great role, and is playing it still, in financing and also controlling a vast field of industrial activity. In England this has been otherwise, and the original family business and the single manufacturer has for some reason shown a greater degree of resistance in respect of this new development. Yet the present structure of the main branches of English industry presents in principle the same picture. The huge undertaking, the trust, the powerful association, the giant holding company, the concern, or whatever the new forms of concentrative development in industry may be, is not merely characterized by control over a certain large percentage of the output of the industry in question, but represents at the same time a most dominating financial factor in its branch of industry or even in groups of industries. The single, " independent " manufacturer is shrinking to a *quantité négligeable* in the trade; industrial capital is once more asserting itself. Its aim is not limited to the function of assisting the manufacturer in his regular process of production, but is directed towards gaining control, if possible, over national and even international production.

Just as in the epoch before the " industrial revolution ", that is in the time before modern machinery made its début, the " industrial capitalist " of to-day may come from very different quarters. In the U.S.A.

a whole class of promoters has arisen, bearing some resemblance to the old " projector " class of financiers. In Germany as well as in the U.S.A. banks are playing an important role in the modern process of financing big industrial undertakings. In the time of the most violent inflation in Germany, and of credit inflation in the U.S.A., people whose main business consisted in the handling of huge blocks of company shares sometimes gained a very decisive influence on the destiny of some industries. To this period there belong the names of Kreuger, of Loewenstein, Stinnes, Hatry, Hugo Herzfeld, the Perrone brothers, and many others. But this period of post-War abnormalities has, of course, soon passed[1] and with deflation taking place over the whole world the role played by share capital and stocks in regard to industrial organization and its various forms has in general reverted to its normal character. But it is precisely from this transitory development that the more permanent process has to be distinguished. It is the big undertaking itself, either as a single unit or in association with others of its kind, which is to-day assuming the role of the " merchant manufacturer " of former centuries. In fact, as regards the typical modern industrial organization, one could very well speak of a sort of modern " putting-out " system, practised by the dominant concerns in regard to competitors with weaker financial resources. The term " subsidiary " companies may be taken as an expression characteristic of this. To quote just one example we may take a passage out of Fitzgerald's book on *English Industrial Combination*, which deals with the soap combine. " The subsidiaries," he writes, " are not directly owned and supervised by the parent company, but by a sort of holding corporation known

[1] Cf. for a very exhaustive description of the capitalists who were prominent during this time, Richard Lewisohn (Morus), *Die Umschichtung der europäischen Vermögen*, Berlin, 1925.

as Associated Enterprises. The latter is an obscure (!), but evidently very alert, organization, which keeps in constant touch with the various branches, and decides all broad questions of policy (!) and finance." This is where the really decisive line between the "old-fashioned" single-unit industrial undertaking with its financial independence, and the modern concern with its dominant financial and economic control over such units, has to be drawn.

§ 4. *An Early Epoch of Concentrative Organization*

We have then to distinguish between two very essential types in the structure of industrial organization: the one is mainly concerned with the carrying out of the production of the industrial unit, the other has besides the purpose of obtaining control, financial and economic, over as wide as possible a field of production and distribution in the particular industry. The first type of organization is essentially centred in the sphere of production, the second one has, by reason of its further purposes, to be concerned with important organizatory tasks as well. In fact, in as much as the problems of technical productivity or progress may at times come to a standstill, the problems of organizing will become the most decisive in that type of industrial organization.

We have been trying to explain that the second type of industrial organization has been characteristic of the childhood of modern industrial capitalism and that it is characteristic again of its modern forms. Are these changing but somehow parallel developments quite accidental?

To answer this question is not merely of historical or antiquarian importance. We have familiarized ourselves with the view that industrial capitalism can be almost likened in its development to the course of life of men, beginning with childhood and ending

in a sort of senility, and Sombart is trying to make us believe that we are now just in its middle age. Other people—and there is a considerable number of them—assert that the "competitive system" was a mistake and that the leaders of industry, at least, are awakening to the wisdom of organization. Both interpretations of industrial capitalism and its forms have been based merely upon the outer aspect of the changing conditions, but have never bothered to inquire what may have been their common cause. The industrial revolution, finding its principal expression in the invention of machinery, was more or less regarded as an "accidental" development favouring the inherent and versatile aims of capitalists in making the most of their money. In our days Professor Emil Lederer, writing on Planning, has tried to emphasize that the days of technical progress should be considered to be over, all modern rationalization being in fact merely of technical, and no longer of economic, importance, as the former automatic mechanism consisting in the compensation of the increased production by increasing consumption is no longer functioning in the right way.[1] Sombart rejoices in the idea that the former "dynamic" development of industry, which in his eyes was full of social and cultural defects, is now superseded by a more static epoch of "organization" and probably by planning.[2] All these ideas do not take into consideration the

[1] Cf. Emil Lederer, *Technischer Fortschritt und Arbeitslosigkeit*, 1931, p. 52 ss., and also *Planwirtschaft*, 1932, p. 7 and *passim*.

[2] Cf. Werner Sombart, *Deutscher Sozialismus*, 1934: "We are now becoming ripe for a stationary economy and are sending the 'dynamic' economy to where it came from—to hell." An interesting review of reviews of Sombart's book is to be found in *Blick in die Zeit*, No. 48, 1. xii. 34. This review shows that Sombart's views have by no means found general approval among present-day German writers on economics. The system of competitive and "dynamic" capitalism is ridiculed by Sombart in a most emphatic manner: the people of the present economic age "are living an artificial life, which is no longer that of natural vigour, but a complicated mixture of school training, watches, newspapers, umbrellas, books, drains, politics, and electric light."

possible existence of organic economic conditions underlying the development from the beginning of the "putting-out system" of early industrial capitalism to the competitive system of single-unit factories and again to a new era of concentrative or organizatory control in our own time. The introduction of early capitalist financing of industry is simply taken as a clever device for invading the field of production by commercial capital, the transition to the factory system is taken as the natural outcome of technical inventions (as first described by Karl Marx and Engels), and the latest forms of industrial organization are taken as a "better" system of industrial policy. But it has never been asked what kind of organic economic conditions have been responsible either for allowing capitalists to become "merchant manufacturers", or to employ machinery in other ways than before, or to set up a new industrial organization replacing the traditional single-unit competition in industry. Professor Macgregor remarks in the foreword of his book [1]: "The time will come when we are again interested in the expansion of production rather than, as at present, in its regulation or restriction." These words are apparently dictated by a desire to assert that even industrial organization is liable to the experience that "history repeats itself", but historical development in this sense is certainly not to be considered as being accidental and even if we make the undeniably useful distinction between periods of "expansion" and periods of "regulation", the question remains: what must be considered to be the essential conditions at the root of these two possible tendencies and what are the factors which are and have been responsible for the one or the other kind of development. This is all the more necessary since we should not content ourselves with explaining the changing forms of industrial organization as the

[1] Cf. loc. cit., p. vi.

peculiar effect of certain technological changes or as the outcome of a mere psychological attitude.

The development of capitalist financing of industry in the sixteenth to eighteenth centuries and the replacement of independent handicrafts by the "putting-out" system finds its essential explanation in the changing conditions of markets. The original market of the craftsman and small artisan was strictly local. He did not differ at all in that respect from, say, the small dairy farmer even in present-day modern agriculture. Capitalists would never have felt any inducement to subject this class of workers to their financial power. But when the progress of transport widened marketing possibilities, while the small unit of the craftsman's shop did not offer any opportunities for supplying larger markets, the position of the capitalist changed. It was his turn now. Wider markets, representing a concentration of demand even though situated far away from the source of supply, gave a new field of activity to those possessing the capital for taking care of these markets in a wholesale way. The capitalist, as a merchant and adventurer, possessed the necessary qualities to supply these markets if only he succeeded in centralizing, in greater or lesser degree, the sources of supply and in securing, by his financial domination over the workers, a regular and even supply of goods. This was done, as we have been explaining, by "merchant manufacturers", by middlemen of some other type, or by commercial capitalists.

The widening of the markets beyond local boundaries was characterized in that period by a good many different features, but there is no doubt that it was to be accounted for, wherever it arose, by the progress of transport by land and water. The system of "putting-out" meant nothing else than the attempt on the part of the capitalists to combine numerous small producers into a larger, though technically

still decentralized, unit of supply to meet the demand of national or even international markets.

A small country like England was certainly adapted to these changes earlier than continental countries with a much wider economic area, especially when these did not have the opportunity of easy access to the sea as was the case in England. But on the other hand not too much stress should be laid on this point. Transport of large quantities of heavy goods to distant markets was in most cases dependent upon certain conditions favourable to transport, for instance the possibility of river transport, as in the case of the wood from the Black Forest which found its way at an early date to Holland by being shipped down the Rhine. On the other hand, the transport of high-class goods in the fifteenth and sixteenth centuries was to a large extent limited to those wares which, on account of their place of origin, enjoyed a certain " monopoly " or a special valuation which counteracted the high costs of transport; such were the copper wares of Nürnberg, the silks of Lyons, the glass of Venice, the woollen goods of Flanders, etc. But even taking account of this, one must assume that when once the improvements in transport began to progress, as in the seventeenth and eighteenth centuries, a country with a small economic territory was in a much better position to concentrate its production on certain points favourable to production and to the supply of the national demand than countries with a very large economic area.[1]

[1] It is to be hoped that economic history may in the near future elucidate, by more detailed and monographical studies, the extent and effects of the actual progress in transport during the sixteenth, seventeenth, and eighteenth centuries. Although the fact of a general progress is not disputed, the views as to the phases and particular aspects of it are widely divergent. A sharp distinction must be made between goods of a heavy character to be transported and those of high value, and between transport by land, sea, and river, and care should be taken to judge contemporary views in many cases rather as subjective testimony than as objective evidence. Brentano has (cf. loc. cit., vol. iii, p. 168, footnote) quite wrongly and incorrectly criticized Professor Clapham's view concerning the state of English

As regards heavy goods, a very interesting example of early concentrative organization is the Newcastle coal gild, the forerunner of the much later Limitation of the Vend. English coal of the north-eastern districts enjoyed at an early date the afore-mentioned advantages in regard to distant shipment. So long as other English inland districts were handicapped by the high costs of transport by cart the position of the Northumberland and Durham coal-fields situated by the sea or navigable rivers was of a unique character. English coal had become a regular import necessity to the north-western coast of France, so that as early as 1552 it was stated that "France can lyve no more without 'English coal' than the fishe without water".[1] The same was the case with the growing demand of the London market, which could not be supplied by any "local" coal-pits. There were, then, two distant outlets for the sale of north-western coal, both of these representing markets with opportunities for concentrative distribution. In 1676 Sir William Petty estimated that the tonnage of vessels employed in the Newcastle coal carrying trade was

roads by quoting the well-known description made by Arthur Young as regards the miserable conditions of roads (cf. Brentano, vol. ii, p. 21 ss.). If one takes into consideration that Young was very eager to propagate everything that might improve rural development his description may be considered as somewhat overstating the case in order to champion road improvement. Moreover there are a great many passages in Young's works which point to the opposite facts. At any rate even Brentano must agree that the introduction of the turnpike system represented a "considerable improvement over former conditions", and the same applies to the introduction of coaches (cf. loc. cit., p. 224, vol. iii); and as regards the progress of river transport in the eighteenth century, he gives himself a detailed description. As regards the North-English coal trade it is reported (cf. Levy, loc. cit., p. 10) that a single ship had a carrying capacity in 1421 of about 20 chaldrons (one chaldron equal to about 2·6 tons), but in 1653 six or seven times that amount is given as the average cargo. In the valuable treatise of de Lacy Mann and Wadsworth we find many passages relating to the improvement of transport facilities, and there can be no doubt that both authors are satisfied as to the rapid improvements. Although they too quote Arthur Young's verdict, they give a description of the carrying system for the same period which in their view "developed amazingly" (cf. loc. cit., p. 220).

[1] Cf. Hermann Levy, *Monopolies*, loc. cit., p. 10.

about 80,000 tons and he stated that it had been increased four-fold in the last forty years. The building up and the organization of this trade could certainly not rest upon the activity of small independent miners. In fact, as I have been able to show in my book on *Monopolies, Cartels, and Trusts*, the organization of the north-western coal production in the seventeenth century was highly capitalistic; by the beginning of the next century many hundreds of people were employed in single collieries. The organization for exploiting these market conditions was the gild of hostmen, who formed a regular cartel with a system of quotas, fines, and other regulations. This association, whose members were capitalist mine owners, may be considered as the first of its kind to exploit, in cartel manner, opportunities of combined control arising from the concentration of marketing conditions. It was dissolved in 1653 together with many other monopolies, on the dissolution of Parliament by Cromwell, but it reappeared at the end of the next century and remained active up to the time when the progress of land transport by railroads put an end to the monopolistic conditions which the north-western coal production had enjoyed for centuries on the London market.

The case, of course, was different with the production of goods of a highly finished type, possessing no natural monopoly. But here as well there existed possibilities of concentrative production, which could be exploited so soon as distribution on a larger scale to non-local markets became desirable and profitable. Capitalists could turn, as we have already seen, towards the crafts corporations of the small masters. These "associations", if properly organized, could be used as centres of production from which distribution to distant markets became possible. The influence of the crafts of London on all the markets of the country had greatly increased during the seventeenth century,

and it could be enhanced by royal ordinance. Where foreign importations were threatening to undermine the control of corporations over national markets, tariff protection was eagerly sought by the industrial capitalists. A very interesting example of this kind is the pin monopoly of the seventeenth century. Its story, from 1605, when the first corporation was founded, up to the outbreak of the Civil War, is a continuous attempt, partly by the corporation itself (which is an example of a gild organizing its capitalist domination by means of contributions to a common fund and by special calls on its richer capitalist members), partly by the capitalists, financial and political, whose aid was sought, to form an organization supplying the entire national demand. In fact, in 1635, the Company of Pin-makers, after many failures, was reincorporated and received two important privileges. Imports were strictly forbidden in their favour, and all the pin-makers throughout the kingdom were put under the London Company. The possible transformation of local markets into a national market manifested itself in the creation of a concentrative producers' organization. New facts, proving the importance of a widening of markets with respect to early capitalist concentration of production, have been collected by Wadsworth and de Lacy Mann. Though neither of these authors has made the problem of markets a special point of their investigations, the reader of their elaborate study is left with the impression that they have in no way underrated its importance. Thus Mr. Wadsworth states that "the tendency of commercial capitalism" (by which he apparently means "industrial" capitalism) "grew stronger with the enormous development of the foreign market",[1] and another passage of the book states that the "more extensive foreign markets" "called for a new set of men".[2] "A yeoman clothier extends his business

[1] Cf. p. 211. [2] Cf. p. 279.

in the early eighteenth century and dies a merchant. His sons develop it, either by a London house, or by travelling abroad, say, to Portugal, Germany, or Russia." But while Wadsworth dates those conditions in the woollen manufactures from the beginning of the eighteenth century, the development of rich industrial capitalists employing the putting-out system on a large scale was much earlier, as in fact the widening of the markets had begun long before that date. A valuable document of 1618 [1] mentions the rich clothier who bought his wool direct from the wool countries and secured his whole year's provision beforehand, had it spun in the winter by his own spinners, woven by his own weavers, and fulled by his own tuckers, all of whom he paid " at the lowest rate of wages ". It is also of interest in this respect to note that, with the enlarging of markets, new systems of trading sprang up. One of the first means of facilitating sales to wider markets had certainly been the fairs.[2] Here contact was gained with chapmen and dealers from all parts of the country, and just as much business was done in the booking of orders and settlement of accounts as in the turnover of goods actually brought to the fair. In the eighteenth century the fairs more or less disappeared.

The system of commercial travellers had made its appearance. The Manchester manufacturers " riders out ", who carried patterns of their wares, and had their orders sent by carrier, formed a numerous class by the middle of the century. Sometimes the merchant or manufacturer himself travelled, as in the case of that " principal merchant of Manchester ", who, " in the first half of the eighteenth century " sent the manufactures of the place to Nottinghamshire, Lincolnshire, Cambridgeshire, and the intervening counties, and principally took in exchange feathers from

[1] Cf. Levy, *Monopolies*, etc., p. 13.
[2] Cf. de Lacy Mann and Wadsworth, pp. 238–9.

Lincolnshire and malt from Cambridgeshire and Nottinghamshire.[1]

The increasing importance of the widening of markets in the development of industrial organization of that epoch—that is the progress of the industrial capitalist, the putting-out system, the concentration of manufacturing in large towns and manufacturing centres as a consequence of the produce of industry being enabled to move beyond local borders—the influence which a better and quicker technique of transport had on the personal conduct of industrial business can hardly be disputed. But there remains a great deal of research work to be done by the economic historian to elucidate the many details connected with this development, especially in its main period of about 1600 to the middle or end of the eighteenth century. There can be no doubt that the process of concentration of industry and of the new organization adapted to this tendency varied very much according to the different structure of the industries in question. It may have been earlier and more easily brought about where "new" industries were set up from their very beginnings with a new technique of some kind or other, or where a natural monopoly like that of the north-western coal or the Cornwall and Devonshire tin supported the concentrative tendency of distribution introduced by the progress in transport facilities and the enlargement of markets. On the other hand, it appears that the same development may have been retarded where production was very much scattered about and where the traditional handicrafts organization resisted the capitalist intruders for a somewhat longer period. It made an essential difference as respects the actual progress of industrial capitalism, whether, in special industries as in the wire industry, new technical methods were leading to a sort of "factory" system at so early a date as the end of the

[1] Cf. de Lacy Mann and Wadsworth, loc. cit., p. 239.

sixteenth century [1] or whether, as in most of the textile industries, the process of production remained traditional and mainly dependent on the personal skill of the craftsman much longer.

§ 5. *The Organizatory Significance of the Factory System*

At any rate the principal economic tendencies making for the development of factory system were earlier than the expansion of this system itself. In this sense one may rightly contend that the great inventions which led to the industrial revolution, commonly said to date from 1750, may be regarded as accidental. The underlying conditions making such inventions profitable and useful were the concentration of production which had become economically profitable, ever since markets had begun to widen and to become themselves concentric. This is proved by the fact that in industries like the north-western coal mining, machinery played its part at a very early date,[2] as here the possibilities arose of selling large quantities to concentrative markets, while the case was, of course, quite different with spinning or weaving which was to be found in almost every rural home and practised by artisans scattered over the whole country; here the introduction of machinery had to meet a very tenacious opposition of the traditional workers, as can be gathered once more from many passages in Julia de Lacy Mann's and Mr. Wadsworth's book.[3]

The history of the great inventions of the eighteenth century has been recently retold in an interesting way by Professor Lujo Brentano.[4] But the rationalization

[1] Cf. Lévy, *Monopoles*, etc., p. 7.
[2] Cf. ibid., p. 11.
[3] Cf. loc. cit., pp. 100 ff. and *passim*.
[4] Cf. Lujo Brentano, *Eine Geschichte der wirtschaftlichen Entwicklung Englands*, vol. ii, Jena, 1927, pp. 381 ff.

fever of our own days has provided us with another good example of how inventions, discoveries, or improvements of any kind may lead to commercial disappointment if their exploitation is not based upon the solid rock of market conditions. There is no doubt that in the very early days of factory development there was much anxiety that machinery would displace more handwork than it could re-employ. But in fact the process, which is to-day called "compensation" set in rather satisfactorily as the cheapening of production was followed by an increase of demand and of sales in a relatively short time. It had been, indeed, market conditions, in the shape of a strong tendency towards the widening of local production into a national and even international distribution, which led the way towards concentration of manufactures in the most profitable centres and thus paved the way for all kinds of new devices for organizing these concentrative points of production by applying the labour-saving principle. But it should be remembered that this process had its intermediary stages as well. In textile manufacture, for instance, mills were first erected, which were called public mills. The weaver used these mills almost as the smaller farmers lease out threshing or other machinery. He took his yarn to the public mill and wove it by using the machinery installed there, or he ordered this to be done for him. In both cases he had to pay a rent. Later on such plants were erected by weavers who had become rich or wealthy merchants employing wage-earners. "The number of employers diminishes, the place of the great many former master-weavers is taken by a few manufacturers," writes Brentano. It would lead too far, indeed it may be considered as another field for more and detailed research, to enter into a description of the different ways in which factories developed out of the rise of concentrative conditions in industry combined with the progress of

machinery.[1] But one thing is certain, that wherever the conditions were favourable to large scale production or concentrated manufacturing for distant markets instead of the former system of local supply by handicrafts, the introduction of the new machinery and the replacing of the already existing concentrative form of industrial organization, i.e. the putting-out system, by the factory was only a short step further on in the same direction.

But the effect of the new order of things was not limited to the problem of social relations only, although the problem of the social effects of the factory—in contrast to the putting-out organization of industry—in dividing producers into definite classes of capitalist employers and proletarian wage-earners, has been almost exclusively in the fore front of economic literature. We have already mentioned the other side of the change. The factory system created a new set of independent capitalist producers, who had an absolute control over their plant and who were at liberty to sell their produce to whom or where they liked and even to undertake themselves, if they wanted, the disposal of their goods—all this in contrast to the small master of the former system who had been driven into a dependence on commercial capitalists and trading middlemen. While the putting-out system had influenced "industrial production" in a lesser degree (if we except the capitalist development of small masters) being, in the main, a new form of its financial (capitalist) organization, the factory system represented an altogether new form of industrial production. An entirely new type of "works" sprang into existence and a new "master" who was in fact his own master replaced the dual system of organization connecting powerful commercial capitalists and powerless "independent" producers. In mining and in many of the "new" industries,

[1] Cf. as regards iron manufacture, Brentano, loc. cit., p. 390.

which were from the beginning worked with machinery, the new form of industrial production and organization certainly came earlier than in handicrafts and artisan production. But in principle it was the same development.

As we said before, the essential feature characterizing the factory system in contrast to the preceding system of industrial capitalist organization has been its independence from control by commercial capitalism. This fact is due to two circumstances. To some extent factories were erected by people possessing enough capital themselves to comply with the technical demands of the new form of industrial production. As the result of special circumstances small masters might become rich men possessing enough capital to exploit new inventions, traders or commercial people of all kinds might risk some of their money in erecting a large workshop or factory, and all kinds of adventurous people, " projectors " of various types, might risk some of their means to support inventors in their endeavour to realize the fruits of their work by becoming manufacturers themselves. · Sombart makes an interesting classification of the different types of these industrial entrepreneurs so far as concerns the later German development into " Fachmänner " and " Finanzmänner ".[1] The first of these terms as here applied may perhaps be translated as " expert industrialists ", i.e. those leaders of industry, who had their training or experience from and within industry, either being brought up in industry as working-men or otherwise, or deriving their abilities mainly from an academic study; and the second term may be translated as " financial " or " commercial industrialists ", i.e. leaders of industry deriving their dominant position from their ability as business men and, in many cases, as born capitalists.

[1] Cf. Sombart, *Das Wirtschaftsleben im Zeitalter des Hochkapitalismus*, vol. i, 1927, pp. 16 ff.

Sombart gives some examples of these "ideal types"[1] of manufacturers: under the first category he mentions Alfred Krupp, Werner von Siemens, Ernst Abbe (optical instruments), Robert Bosch (magnetos). Under the other category: Emil Rathenau and Felix Deutsch, who have both been prominent in building up the German electric industry, and many American trust magnates. There is besides, according to Sombart, a sort of composite type combining both technical and financial qualities as has been the case with Mr. Henry Ford. A very interesting example of a man who started with little or almost no property, but who was an "expert industrialist" and who, by means of technical innovations, lay the foundation stone not only for his own factory but later on for one of the biggest national and international concerns, is the Anglo-German Ludwig Mond.[2]

But there is another fact which has certainly led in no small degree to the rise of independent individual industrial units on the factory basis. Where would-be industrialists were neither rich enough to start business on their own resources nor could obtain credit for this purpose by applying to individual financiers, the joint stock principle of organization helped manufacturers from an early date. Professor Scott, of Glasgow University, has the great merit of having rediscovered early joint stock companies in industry. Of course, the joint stock principle made its first appearance in commerce and banking, but by the beginning of the eighteenth century it had become a general form of industrial organization too. We find joint stock companies in mining, in iron and steel manufacturing, in the making of glass, in certain sections of textile manufacture.[3] Brentano seems even to be of the

[1] *Idealtypen*, an expression first used in modern German economics by Max Weber.
[2] Cf. H. Bolitho, *Alfred Mond, first Lord Melchett*, London, 1933.
[3] Cf. Brentano, loc. cit., p. 391.

opinion that the joint stock principle characterized manufacturing enterprises on a large scale in England in the eighteenth and part of the seventeenth centuries to a somewhat greater extent than in the factory period, as he declares that in those times " entrepreneurs were not yet rich enough to become the exclusive owners of their plants ". How far this view is correct could only be proved by a minute study of the actual historical development of a great number of factories in the course of the eighteenth and nineteenth centuries, a study showing from what sources the money necessary to start a factory generally came and under what special circumstances the joint stock form of organization was preferred or necessitated. This is another task for the modern economic historian. We may content ourselves with the statement that the factory system was able to retain the independence of the individual works either by the manufacturers finding their own capital [1] or by the formation of a joint stock company (as was certainly the case more in Germany than in England). The result has been the rise and continuance of a great number of producers, competing with each other, and being independent in their industrial administration, their production programme, their financial decisions, of the domination of financing groups or powers.

In this the factory system had features which distinguished it as a form of industrial organization from the former putting-out system, which had led to a domination of single individual producers by the commercial or financial capitalist or even by industrial capitalists who acquired control over their weaker fellow-producers, the small masters. This form of organization had certainly been " expansive " and, led by the desire to exploit conditions of concentration by as large as possible concentrative organization, resulted in many cases in monopolies or what we

[1] Cf. also Macgregor, loc. cit., p. 135.

call to-day "exclusive agreements".[1] But this was not the case in the factory era of industrial organization. The new technique of machinery and discoveries, while enabling the single manufacturer to hold his own, just as had been the case with the small crafts in local markets, made conditions for a great number of producers less favourable to concentration than they had been in the seventeenth and eighteenth centuries in regard to mining, new industries or "monopolizable" gilds, or handicrafts corporations. The time of centralized financial domination over industry had passed. The single factory owner or company could not be a desirable object for financial monopolizers, as in fact the number of single undertakings in the various branches of industry was too numerous, and the industries themselves were as a rule not even geographically concentrated but spread over many districts far distant one from the other. Therefore the factory owners or single companies themselves were as well exclusively left to their own unit of production and to the care of their competitive efficiency. They had no interest in expansion from a capitalist point of view, but when they became disposed to amalgamate at an early date of modern industrial development, this was done as some sort of unification which might seem useful here or there in regard to some single units of production. In the overwhelming majority of cases at any rate the owners or administrators of single-unit factories were essentially occupied with the economic side of their undertakings, that is with all the technical questions and processes connected with production, and with

[1] Cf., for instance, the agreements between Sir Thomas Bartlett and the pin-makers, at the beginning of the seventeenth century, and the scheme of another agreement with Mr. Lydsey in 1639–1640. He promised to place £10,000 at the disposal of the pin-makers, in return for which his agent was to buy all their output at a fixed rate agreed upon in a list of prices. The pin-makers on their side were to use Lydsey's wire, and no iron wire. There were a good many other examples of the same thing. Cf. Hermann Levy, *Monopolies*, etc., pp. 39–40 and *passim*.

the most advantageous sale of their produce, besides of course with a number of social problems arising from and with the task of running an industrial undertaking. But never did they conduct their business with any pronounced desire to become masters of the whole of their trade or even a sector of it, or to rise from being one producer among others to being powerful dominators of a whole group of manufacturers. Inasmuch as such tendencies were non-existent, the whole aim of the factory owner was directed towards keeping his place in the competitive struggle with others.

The genuine factory system represented then a sort of industrial organization more closely resembling—so far as concerns the producer—the system of handicrafts, before it was used by the financial and commercial industrialists as a means towards their expansive aims of control. The factory was indeed a sort of renaissance of the independent industrial producer, regarding capital as a more or less necessary evil and without any object of " control " or commercial domination. The putting-out system could be regarded as a sort of transitory organization lasting only as long as the new concentrative structure of markets and the necessity of producing on a large scale had not yet found its proper and adequate new expression, which in fact was to be represented by workshops based upon the use of machinery or also upon the exploitation of new scientific methods of production, which necessitated a new arrangement of work and division of labour, under one roof.[1]

One may ask why the factory system consisted of such a great number of single units and why it did not show some sort of concentration of production, which had already been aimed at by the industrial

[1] Cf., for instance, the history of pottery in England as described by J. L. Hammond and Barbara Hammond, *The Rise of Modern Industry*, 2nd ed., London, 1926, chap. x, and also Brentano, loc. cit., pp. 364–6.

capitalists of the former stage of industrial organization? I do not think that this question will ever be satisfactorily answered by economic history. One might be justified in propounding the theory that the founders of the new factories could by no means estimate, in anything like an accurate way, the possible capacity of their (now distant and non-local) markets, while the former big commercial industrialists, coming mostly from the trading side of the business, had been well acquainted with the actual demand and were trying to comply with what they may have considered as an almost unlimited demand. This certainly gave an impulse towards engrossing as much as possible of the production.

The rise of the factory system happened under quite different circumstances. The factory owner or manufacturer was less acquainted and interested in marketing, and used the regular trade channels and middlemen for that purpose. But in contrast to the commercial adventurer capitalist he was certainly reluctant to increase his production indefinitely, as there was always the apprehension that others might do the same and glut the markets. While the putting-out capitalist, relying on the existing crafts corporations and artisans, had hardly to fear new competition, when he was able to dominate or even monopolize the small masters, and while the same applied to new industries and also to mining, so far as these were made an object of monopolization in the seventeenth and eighteenth centuries, the owner of a factory in the later period was faced with freedom of trade on the one side and with a rapid expansion of productivity on the other, so that in fact it must have appeared very risky to the new class of industrial entrepreneurs to vaguely and recklessly increase the output of their works. Besides, such an increase was in any case proceeding step by step through the continuous progress in inventions and discoveries. It was difficult enough to

keep pace with it and to remain " up to date ". The increase of factory units as regards their productive capacity was that of " milestones ". But at any rate the number of units of works or undertakings did not significantly diminish with it at first, and during most of the nineteenth century even increased, since the increase of demand was probably advancing at an even faster pace than technical progress, thus necessitating an enlargement of industrial units.

We may take the development of pig-iron furnaces as an example. From 1796 to 1880 the number of furnaces in existence rose steadily in England, from 124 to 926, although most striking technical improvements had been going on and the production had in fact increased from about 125,000 tons to about 7,700,000 tons.[1] Of course the increase in the number of technical units was in no way equal to that of production, and a much greater amount of pig-iron came from one individual unit in 1880 than a century ago. But the main point is, that in spite of technical improvements and an enormous increase in the capacity of markets there had been an absolute increase in the number of furnaces! So long as this was the tendency in industry there must always have been a fear on the part of the single manufacturer that he might increase the size of his plant in an uneconomic way when taking into consideration the fact that others might increase their productive capacity as well, while the increase of the probable capacity of markets could not be foreseen. This circumstance may have been responsible for the fact that the first hundred years of the factory system did not bring a noteworthy concentration of units, but that the number of single units or undertakings was able to rise simultaneously, though of course not proportionately, with the increase of production.

[1] Cf. Levy, loc. cit., p. 216 and footnote.

The contrasting of the rise of the factory system and its aspects in the nineteenth century with the former concentrative tendencies of early industrial capitalism brings us face to face with its corresponding contrasts to the most modern development in industrial organization. The economic world has watched, for some decades past with an increasing interest, the concentration of industrial units in almost every important industry. Cartels, trusts, syndicates, and associations have been arising in almost every part of the world as a new form of concentrative organization of industry. We live once again in an epoch of industrial monopolies, and at the same time the most prominent undertakings in almost every section or branch of industry of almost every industrialized country have become dependent in their administration on impersonal factors, unknown to the traditional factory system, such as directorates, financial domination by banks, promoters, controlling companies and concerns. Industrial organization has indeed entered a new stage of development. We must reject the assumption that new ideas of organization have suddenly entered the heads of industrial leaders and magnates. We must also reject the idea that the former system of many and separate units was a mistake. We have tried to show that this system was neither accidental nor even the infant system of modern industrial organization, that it was on the contrary a system following an earlier one which bore a resemblance to that of our days, and that both were vested in specific economic circumstances which can be clearly discerned and defined.

What then has been the cause, or the series of conditions, to which the development of the modern aspects of industrial organization has to be attributed?

This question is not put out of mere academic curiosity. We are well aware that there are people who lay greater stress on a study of the present state

of industrial organization than on that of the causes which have led to it. But we are taking up the study of the latter in the belief that the very analysis of the conditions which have led to the changed aspect of industrial organization in our days is essential for its objective valuation.

PART III

THE ECONOMICS OF INDUSTRIAL CONCENTRATION

§ 6. *Some Inadequate Explanations*

When the problem of industrial combination suddenly made its appearance in the eighties and the beginning of the nineties of the last century—the first to " discover " cartels was Prof. Kleinwächter, of Innsbruck [1]—economists and economic writers seemed to be startled by the new phenomenon. This was only natural. The economic world had been accustomed for more than a hundred years to regard the principle of competition as perfectly settled. Industrial monopolies seemed not only undesirable but practically impossible. Now, a new experience with industrial organization was growing up, first in Germany, the U.S.A., France, and Belgium, later in Great Britain. To many economists the new development did not appear to be a genuine " development " at all. They considered it as a sort of " malpractice " of industrialists, being against the rules and laws of a " natural " order of economic affairs, a development, which was probably the outcome of some misuse of capitalist power, of State protection in some form or other, and at any rate highly detrimental from the point of view of national economic interests.

In England, apart from the fact already mentioned, that the existence of cartels and trusts was for a long time disbelieved and disregarded by the general public,

[1] Cf. for many sources quoted or used in this paragraph, as also for its text, pp. 108–133 of my book *Industrial Germany*, Cambridge Press, 1935.

this attitude seems to be by no means extinct. It was not so very long ago that Professor Gregory, of the University of London, emphatically expressed the functions and value of industrial combination in the following words: "All industrial combinations begin with a heavy financial charge which they get back from the community in the form of higher prices or from shareholders in the form of watered capital. The trust movement hinders the development of industry." [1] Professor Gregory did not even mention that "industrial combination" is not only represented by trusts, but also by cartels and agreements which have nothing to do with shareholders or watered capital or financial charges to the undertakings which are combining. Economists who express a verdict of this kind hardly realize that they merely give a "moral" judgment, without taking into consideration the conditions "as they are". It seems of little scientific, and certainly of no practical, value to consider the modern comprehensive development of industrial combination merely from the point of view that it had better not exist. But even so careful a writer as Professor Lionel Robbins seems almost to be seconding Professor Gregory when he declares in 1934 [2]: "Industrial monopoly, where it does not depend upon natural monopoly, is usually the by-product of protection or a system of trade marks and patent legislation definitely inimical to competition." Thus, seen from this angle the whole movement of industrial combination seems to be merely the outcome of some accidental circumstances enabling manufacturers to form monopolies, and of a mistaken economic policy of the State. Industrial combination then is not one system of organization taking the place of another, but simply a track leading away from the straight path of a competitive order to the morass of monopoly.

[1] Cf. Levy, *Monopolies*, p. 323.
[2] Cf. Robbins, *The Great Depression*, p. 189.

Fortunately enough this attitude has not been that of science in general. On the contrary, from the eighties onwards science in many countries, and in England as well, has tried to deal with industrial combination as a new phenomenon of industrial organization, which should not be considered as the mere outcome of avarice and unwise policy, but as being founded on great and decisive changes of the conditions underlying the structure of industrial organization.

The explanations put forward are in the main based upon valid observations of industrial development. They are only defective in that they do not give an absolute and comprehensive explanation of the causes which have led to the decay of industrial competitive systems but merely an analysis of partial validity. This may be illustrated by some examples. As at an early date the cartel movement in Germany seemed to be most intimately connected with the development of protracted depressions, the cartels were often spoken of as " Kinder der Not ", emergency expedients.

Brentano gave to this theory, which has not yet disappeared from all economic writings, a somewhat deeper meaning, by pursuing the following line of thought: In the days of a system of technique still relying to a great extent on manual labour, that is on " variable " capital outlay, depressions were met by the manufacturers by a closing of their works or at any rate some drastic curtailment of production; this could be effected without loss to the employer inasmuch as his principal costs of production were composed of the item labour; when the application of machinery made new strides this possibility of avoiding big losses in times of depression vanished; the main item of the cost schedule had now become " fixed " capital which would lie dead when production ceased; the means then to protect fixed capital against depreciation caused by a heavy and constant fall

of prices was that of forming agreements eliminating competition and fixing prices. The growing immobilization of capital, and its effects in times of depression, was thus regarded as the key to an explanation of the rise of cartels and trusts.[1]

In recent times this theory has been enlarged by adding the term " Über-Investierung ", over-investment, to that of simple capital immobilization through increased fixed costs.[2] It remains doubtful whether such " over "-investment, leading by its nature to " over-production ", is vested in the very structure of modern industrial development, whether it is mainly inherent in the system of free competition[3] or even aggravated sometimes by cartelistic policy or over-capitalization, or again whether it is merely the effect of certain " accidental " economic or financial developments as, for instance, the international prosperity before 1929 and the set-back after that year. This is not to the point here. There can be no doubt that depressions are more severely felt by manufacturers when capital immobilization has been going on. To deduce from this fact " an essential cause of cartelization", as Wolfers does, is certainly not correct. First of all the desire to check over-competition by agreements or amalgamation cannot be termed a " cause " of cartelization but merely a motive. Secondly, it must be kept in mind that the fact of cartelization is not solely dependent upon the desire to combine, but also upon the possibility of doing so. If, for instance, foreign competition is not checked, or if the number of competitors is too great, the chance for combination may be very small even if the industrial

[1] Cf. Brentano, *Über die Ursachen der heutigen sozialen Not*, Leipzig, 1889, *passim*.

[2] Cf. Arnold Wolfers, *Das Kartellproblem im Licht der deutschen Kartell-Literatur*, 1931, pp. 29 ff.

[3] Cases of over-investment, caused by the fact that manufacturers had been relying on the strength of cartelization in case of depression, are well known. Cf. Wolfers, loc. cit., p. 31.

process, or at any rate the important works in the branch of industry in question, are greatly " immobilized ". The fact of the desirability of combining, enhanced by capital-immobilization and depression, therefore represents only a partial explanation of cartelization or trustification. In fact we have many instances of cartels and trusts not being formed in times of depression, and many flourishing cases of industrial quasi-monopolies, as for instance in the chemical industries, in electricity, in rayon, etc., which do not show any connection with the ups and downs of industrial prosperity.

Another explanation of the movement towards industrial combination lays stress on the fact that the greatest number of cartels and trusts is found in the primary stages of production, such as mining, or wherever production is in some way or other affiliated to monopolizable " natural " resources connected with land. We have in many parts of the world, as in the U.S.A. and Germany, very dominant industrial combinations in the coal-mining industry; there are iron-ore syndicates; there is the mighty syndicate in German potash, now a dual syndicate between the producers of Germany and France (Alsace-Lorraine); we have quasi-monopolistic organizations in copper and spelter and in oil—although it must be remembered that the dominant position of the American Standard Oil Corporation is based upon domination not over the oil wells, but over the pipe-line system, which *de facto* also represents a monopoly of land—there are important cartels or amalgamations in the salt trade, in England for instance, and in Germany; and there can be no doubt that large sections of the iron and steel combines of different nations find their main support in a monopolization of the mined raw material.

It is therefore only natural that theory should lead to generalizations. It was Dr. Theodor Vogelstein who,

as early as 1904, in a treatise on American and German industrial combinations, first advanced the theory that industrial monopolies were linked up with the existence of elements of production which cannot be indefinitely augmented, at least cannot be augmented at the same but only at higher costs.[1] By quoting the work of Professor Lionel Robbins we have been able to show that this theory prevails up to the most recent time, since Professor Robbins is in fact contending that, apart from patents and measures of State protection, industrial monopoly " depends upon natural monopoly ". We do not want to underrate the fact that industrial combination is more likely to succeed in the primary stages of production; this is true not only on account of the increasing costs of augmenting production when once the most profitable resources of raw material have been exploited or occupied, but also because in the primary stages of production, as in its half-finished branches, greater uniformity of production and better opportunities for standardization and normalization favour combination or amalgamation. But, on the other hand, we cannot regard this explanation as being anything like comprehensive. Even at a very early date in the development of cartels and trusts there have been enough cases to show that industrial combination had its chance just as well where conditions of " natural monopoly " were lacking.

The American beef trust, for instance, has by no means monopolized natural resources. On the contrary. The cattle herds from which the giant meat factories in the Middle West drew their supplies were in no way monopolizable, and an official Report on the Beef Industry has explained the conditions of the monopolistic position of the beef industry as consisting in circumstances that have no relation to any sort of natural

[1] Cf. Th. Vogelstein, *Zur Frage der Monopolorganisationen insbesondere in Deutschland und in den Vereimgten Staaten*, 1904, *passim*.

monopoly.[1] Another of the early American combines, the tin plate trust, which was formed in 1898 and controlled about 90 per cent of the American tin plate manufacture, did not possess its own resources of the raw material—though the big firms were producing semi's and black plates—but were on the contrary under the pressure of procuring it by purchase.[2] And if we take the iron and steel industry as a whole, it is certainly undeniable that large parts of it have built up quasi-monopolies on the basis of the monopolization of coal and ore. But does this explain why cartelization in that industry was very different in the different branches, and why for instance there was at an early date an association of British rail-makers in an international rail syndicate, while even to-day the iron and steel industries of this country cannot be spoken of as being cartelized or trustified? The answer is certainly not very difficult to find—as will be seen on a later page—but here at any rate was a later stage of the production process which showed monopolist association at an early date while the primary stages, such as the making of pig-iron or semi-finished material, remained a domain of free competition. It is just the English example which can be taken as a test that quasi-monopolization is not necessarily bound up with " natural monopoly ". The Coats combine, the Sewing Cotton Company, the Fine Cotton Spinners and Doublers, the Calico Printers may be cited as instances.

In Professor Robbins's argument we meet also another old acquaintance of monopoly explanation. " The tariff is the mother of the trusts " was once a battle-cry in the U.S.A. and, as one sees, it is a rather long-lived slogan, for Professor Robbins expressly says that industrial monopoly is " usually a

[1] Cf. *Report on the Beef Industry*, Washington, 1905, p. xxiii and *passim*.
[2] Cf. Hermann Levy, *Die Stahlindustrie der Vereinigten Staaten von Amerika*, 1905, pp. 281 ff.

by-product of protection". Nobody can deny that tariffs may play an important part in the structure of modern industrial organization. A tariff which to some extent shuts out foreign competition enables manufacturers to raise prices to the level of world market prices plus duty and freight—if manufacturers are willing to combine. Where the conditions of combination are already given the tariff may act as a rather strong incentive to the realization of the possibilities of combination. On the other hand the tariff may itself be considered as one of these conditions in that it reserves home markets for national production.

It was in this sense that classical economists spoke of tariffs as creating "monopoly". But where such conditions do not exist the tariff may prove absolutely ineffective as regards industrial combination. Where, as for instance in the industry of ordinary spinning and weaving in Germany, there are a large number of undertakings the opportunity for combination given by the tariff may be decisively counteracted by the large number of firms in the trade which may prevent concerted action. The "monopoly" feature of protection remains "intact", but its exploitation by the trade will not be attempted, or if it is attempted it will remain futile. Thus Professor Wiedenfeld could state in a Report delivered to the World Economic Conference that it was characteristic of the German textile industries that they are permeated by a great number of cartels, but that these consisted essentially of loose price conventions and agreements about certain conditions of selling which were of secondary importance; only in a few cases have these agreements been of a more stringent character. Thus, one of the most prominent branches of German industry, and at the same time an avowedly "protected" one, lacked monopolist organization of that comprehensive type characteristic of German industrial combination.

While in the German iron and steel industries tariffs have doubtless played an important role as a stimulus towards industrial combination, their effect in the textile industries has been of quite secondary significance.

On the other hand, the argument which lays exclusive stress upon protective measures as an explanation of industrial monopoly has constantly overlooked the fact that there may be cases of industries where no protection at all is needed for the purpose of forming quasi-monopolies. The example of the English textile combines mentioned above may be quoted again in this connection. Then there are also the numerous industries which may be considered as " sheltered ", as regards the national supply, by quite " natural " circumstances and which may permit of industrial combinations on an entirely " free trade " basis. Professor Robbins is careful enough to add " natural monopoly " to his enumeration of monopolistic conditions as protection, patents, and trade marks. But he again forgets that the situation which he probably means by " natural monopoly ", that is certain mineral resources having a monopolist position by reason of their natural scarcity, may just as well occur elsewhere where no such conditions are traceable. There are enough goods and services in every country which cannot be replaced by importation. Whisky, for instance, enjoys in the British domestic and colonial markets, as well as in foreign markets, a monopolistic position highly favourable to large firms owing to its special brands and its use as a national drink. The trust in this branch of industry, the " Distillers Company, Ltd.", has hardly to fear any foreign competition in English or Colonial markets, even if it were to pursue a rather monopolistic price policy. A good many other concentrative amalgamations could be mentioned which are certainly not in need of protection. Take, for instance, monopolist concentration in electricity which has been going on

all over the world, although power stations and electricity works are not in need of protection. And again huge amalgamations have been formed in the newspaper business of most nations—such as those of Lord Northcliffe in England, or Scherl, Mosse and Ullstein in Germany—without the slightest help from tariffs. Important, therefore, as the tariff "complex" may be as an explanation of certain sides of monopolistic industrial organization it can never offer more than another "partial" explanation.

Economic science has then been confronted with a conglomerate of various facts and conditions to which industrial combination, or the first stages of the beginnings of concentration, were to be attributed. Some analysers, who were wise enough to refrain from "partial" explanations which were correct in regard to some features of the problem but not comprehensive, have thought it safer to attribute industrial combination in its various forms and shades to a great number of circumstances, which they carefully enumerate. Partial explanation is then replaced by an eclectic explanation.

The one is not very much more satisfactory for a final solution of the problem than the other. Thus Professor Plummer of Oxford, in his very able essay on *International Combines*,[1] asserts that "all forms of industrial combination arise from much the same necessities, desires, difficulties, or circumstances". He rightly distinguishes, in contrast to many other contemporary writers on the subject, between incentives—in his terminology "impulses or stimuli"—and conditions most favourable to the formation of international combines; and there can be no doubt that he does not want to limit his explanation to the international sphere but in fact considers it as being equally applicable to cartels and trusts of every kind.

[1] Cf. Alfred Plummer, *International Combines in Modern Industry*, London, 1934, pp. 54 ff.

The conditions he is speaking of are: (1) "The existence of a small number of producing organizations," (2) the natural monopoly of a commodity, or the concentration of supplies in a limited number of regions, (3) "the existence of national combines," a point which is exclusively connected with the problem of "international" combination, (4) actions of the governments of the respective States in favour of combination, (5) financial interlocking, and (6) "where the commodity produced is a raw material or in the early stages of manufacture". "If two or more of these conditions co-exist the chances of successful formation are, of course, enhanced," adds Professor Plummer, and he asserts, "that there are, in fact, very few cases where the formation and rise of combines can be said to have been assisted by the existence of one condition only."

Professor Plummer's analysis of the cause of combination is characteristic of a good many explanations recently put forward and it therefore deserves critical attention. First of all the *s*'s in the prelude to his explanation arouse some suspicion. They do not explain why in former days "necessitie(s)", "difficultie(s)", "circumstance(s)" of the kind leading to combination did not exist or at any rate not to the present day extent, and this is just what a final explanation of the cartel and trust phenomenon needs. Are we really to believe that suddenly, and after one hundred years of competitive development, a number of different circumstances, desires, necessities are collaborating or "co-existing" to bring about a new, monopolist organization? This coincidence could indeed be only accidental—if, and this is the essential point, there is not one common root or cause linking these *s*'s together.

Professor Plummer does not give an answer to this. But in points (1), (2), and (6)—the other points refer exclusively to international forms of combination—

of his explanation of conditions, all three of which may relate just as well to national combination in industry, he takes "the small number" of competitors as given, without inquiring what special circumstances, which in fact belong to the root of the problem, have been and are still leading to this situation. He asserts that wherever two or more of these conditions are given cartelization or trustification is ready for adoption. But we may point to the coal trade where certainly (1) "the concentration of supply in a limited number of regions" exists, while (2) "the commodity is a raw material". Yet we have no international coal combine. Professor Plummer would probably answer that the cause is to be found in the lack of an effective English coal combine. Very well. But coal is a "raw material", it is of "natural scarcity" and is produced in "a limited number of regions". The great number of English collieries and their diversity has nevertheless prevented national combination, which is the basis for international agreement. But why do these conditions exist in England and not in Germany or France? Again we are led to the conclusion that it cannot be an accidental conglomeration of diverse facts which ultimately leads to industrial combination, but that, on the contrary, there must be some general force which is at the root of all combination in industry, but which manifests itself, however, in very different ways. The "conditions" then would appear to derive their existence from some primary and universal condition or tendency, which must be traced from all its special and greatly diverse manifestations.

Partial as well as eclectic explanations of the modern movement of industrial combination may therefore certainly contain useful truths. But all these attempts are inadequate when the problem is to be considered either from a universal viewpoint or from that of scientific research aiming at results of ultimate value.

In this case neither partial truths, which may have their merits in the sphere of industrial monographs, nor truths based upon the assumption of many conditions leading accidentally here or there to the same results of organization will suffice.

§ 7. *The Revolution in Transport*

The revolutionary change in the industrial organization of the seventeenth and eighteenth centuries resulted, as was described before, from the changing aspect of distribution. Modern marketing conditions have undergone a similar development with far-reaching effects on the structure of the most important industries.

We have already pointed to the fact that it has yet to be explained why a movement towards industrial combination or concentration set in in a rather unexpected and precipitate way from about the eighties onwards, while capitalist development based upon the factory system had been going on without such development for more than a hundred years. If one rightly values the importance which relevant changes in transport facilities must have on industrial structure, one will easily discover that such changes have been most active since the last quarter of the nineteenth century. They have been prominent in the development of land transport by railways, in canal and lake transport,[1] in maritime shipping, in postal facilities of all kinds leading, amongst other advantages, to revolutionary changes in news services. It is not our task here to describe this progress in detail. Our point is to show not so much the character and variety of these improvements as to indicate their emergence and their effects at a certain date in modern

[1] Especially in the U.S.A. as regards the transport of raw material from the Northern and North-Western points on the Great Lakes.

economic development. This may be done by giving a few striking illustrations.

If we take first railway progress, we at once discover that by 1870 the railway network of the world was really only in its beginning. It amounted to 210,000 kilometres. In 1913 it had risen to 1,104,000 kilometres, of which 410,000 were in the U.S.A., so that one single country had increased its mileage to much more than the world mileage had been in 1870. The German railway mileage had trebled during that period. As regards the U.S.A. the increase in railroad mileage has been particularly striking since the middle of the eighties, though naturally fluctuating with periods of prosperity and depression. In the year 1870 the goods traffic of the German railways amounted to 10,393 million ton-kilometres,[1] in 1880 it was 13,053 millions which was indeed not a very substantial increase, but in 1913 it had risen to 67,555 millions. The goods carried by *petite vitesse* in France amounted in 1861 to 27,800,000 tons, and thirty years later to 96,500,000, but in a period of not more than nineteen years after that it had risen to 173,000,000. As to the progress in the utilization of railway tracks it may be mentioned that in Sweden in 1870 about 1·56 tons were transported by the State railway per kilometre of rail per day, while this figure amounted to 7·28 in 1910! If the figure representing the German mileage in 1913 is taken as being 100, the figure in 1860 was only 18 and in 1870 not more than 29. The increase in the next thirty years was here too the characteristic feature.

As regards maritime transport it must be borne in mind that here, as in inland shipping, the replacement of wooden vessels by vessels of iron and steel and of sailing vessels by steamships was in its peak period in the last decades of the nineteenth century. From 1871

[1] A ton-kilometre expresses the freight of one ton carried for a distance of one kilometre.

to 1911 the tonnage of German sailing vessels declined from 900,361 net reg. tons to 403,241, while the tonnage of steam vessels rose from 81,994 to no less than 2,396,733 net reg. tons. The increase in maritime transport in the last twenty years before the War is astounding. The increase of vessels arriving, measured in 1,000 reg. tons net, amounts to 120 per cent in Great Britain, 187 per cent in Germany, 123 per cent in France, 278 per cent in the U.S.A., 227 per cent in Holland, and 244 per cent in Belgium. The world's mercantile fleet, which in 1890 amounted to 21,118,000 tons, had risen to a tonnage of 46,970,000 in 1913, while, of course, the actual efficiency of the ship was greatly increased by the acceleration of the voyage.

As regards the inland water transport facilities it may be mentioned that in Germany the number of vessels employed amounted to 17,600 in 1877, while the figure stood at 29,500 in 1912. The average carrying capacity of the German inland fleet had increased between these two years from 79·4 tons to no less than 250·4. An interesting example of the tremendous possibilities offered by water transport in the period after 1880 is provided by the development of the shipment of ore from the North and North-West of the U.S.A. The progress made in transport can be seen here in the number and size of vessels, the loading facilities in the upper and lower ports of the Great Lakes, and a number of other technical circumstances. Before the opening of the Soo, that is when the iron ore mining of the Lake Superior district began in about 1855, the Lake Superior fleet consisted of ships of 40 to 230 tons. In the middle of the nineties the *Cambria*, which was able to load about 3,000 tons of iron ore, was considered the most efficient carrier. But by the end of the century one of the steamers of the so-called Bessemer fleet brought almost 8,000 tons of ore net to the lower Lake ports. In 1856 the cost

of transporting a ton of iron ore from Marquette to the lower ports amounted to three dollars. In 1881 this freight was still between 2·50 and 2·65 dollars. But by 1890 it had gone down to 1·10–1·25 and by the end of the century it dropped as low as 60 cents! In 1897 the shipments of iron ore to the lower Lake ports had amounted to little more than ten million long tons; five years later the figure had risen to more that 22·5 millions.

The importance of the revolution in transport after 1880 cannot be better illustrated than by the changes in ocean freight rates for the most important article in world trade—grain. In 1866–1870 the freight on a bushel of wheat from Chicago to New York was 23·40 cents and from New York to Liverpool 5·92 pence on a yearly average. In the first five years of the new century the corresponding figures were 5·21 cents and 1·38 pence. It was E. A. Pratt who rightly wrote in an essay on agriculture that "the cost of ocean transport has, from a marketing point of view, became a negligible quantity".

The development of world commerce in the period from about 1870 onwards up to the beginning of the Great War corresponded to the progress in the means and facilities of transport. In fact when one compares the years 1873 and 1913 one is led to the conclusion that world trade had been in a sort of infancy in the former year as compared with the latter, although our forefathers probably held the opinion that international trade had increased amazingly even between 1850 and 1870. Looking back in the year 1913 over the forty years just preceding, one would have been very well entitled to say that indeed the seventies only marked a beginning. A German compilation, once made by the statistician of the Dresdner Bank, states that the whole external trade of the four pillars of international commerce, Great Britain, Germany, U.S.A., and France, amounted in 1873 to about

29,000 million marks. It had risen by 1913 to 74,000 million marks. The progress was certainly most striking in regard to the new industrial countries, which profited from the opportunities opened up by the progress in international communications. The U.S.A. and Germany were exporting in 1913 goods to an amount which was four to five times as great as in 1873.

These figures may suffice to illustrate the significance of the period from about 1875 to 1913. But in fact, they indicate only the quantitative changes. If the clever statement of a German philosopher that "quantitative changes lead in the long run to qualitative changes" is to be applied to any feature of economic development it might be to the period of progress in transport and the means of communications which we have just reviewed. Indeed, what happened in the international economic world during the forty years of peace before 1913 cannot be considered or measured merely as an increase in percentages. If it had only been that, it would hardly have been necessary to take these changes into consideration in our essay. For a percentual increase had taken place before that time as well. The essential feature of the change was that it brought about an unprecedented development in the structural character of national and international production, an innovation, indeed, in the conditions under which most industrial goods had to be produced, and leading quite automatically to new forms and practices of industrial organization. It is from this point of view that the foregoing statements have deserved our interest. We shall now try to sketch the nature of structural changes brought about by this development of markets.[1]

[1] The figures illustrating the progress of transport and commerce from 1879–1880 to 1913 are taken from various sources; cf. especially, "Der Güterverkehr," *Vierteljahrshefte zur Konjunkturforschung*, No. 33, Berlin, 1933; Hermann Levy, *Grundlagen der Weltwirtschaft*, 2nd ed., 1931; Dresdner Bank, *Die Wirtschaftliche Kräfte Deutschlands*, Berlin, 1917;

§ 8. *Effects upon the International Supply of Raw Materials*

The "qualitative" or structural changes alluded to in regard to industrial production were of a different kind. All progress in transport, leading to a lowering of freight rates, to the quicker, more regular, and safer carriage of goods, and to a transportability of goods which had hitherto by reason of their perishable character been unsuited to long distance transport at all, resulted at length in an essential transformation of the opportunities underlying international industrial production.

Before the great revolution in transportation industrial production had in the main been necessarily bound to a local or regional radius of distribution. If we consider world industrial possibilities—either latent at an earlier date or developed later—it has to be recognized that before the great innovations in transport it was in general the location of demand which was decisive in regard to the situation of industry. There were exceptions where, as in cotton, for instance, or in copper, production in the old centres of manufacture was either non-existent or more or less exhausted, and transport became profitable even at a high cost. On the other hand, the radius of transportation had long since been extended as regards the transport of many finished goods to the new countries, which were entirely without manufactures and were under the economic necessity of importing them from the old industrial centres in exchange for raw materials and food-stuffs. But the new era of transport facilities brought the decisive change in something that had previously been in an embryonic state: it became possible and economically profitable to produce all

Hermann Levy, *Die Stahlindustrie der Vereinigten Staaten von Amerika*, Berlin, 1905; Gustav Cassel, *Theoretische Sozialökonomie*, 5th German ed., 1932, pp. 483 ff.; Werner Sombart, loc. cit., pp. 273 ff.; L. Pohle-Muss, *Das deutsche Wirtschaftsleben*, Leipzig, 1930.

goods almost all over the world in the places best suited or adapted to their production almost regardless of the distance to their place of consumption. The role which the incidence of freight had hitherto played had dwindled down almost to insignificance. It became mainly a factor of competition between the new centres of production, but it was no longer decisive as regards the exploitation of sources of supply far away from the centres of demand or as regards the later stages of manufacture.

There arose an international division of labour previously unknown. As regards agricultural produce the attempt could be made to produce grain, wool, all kinds of fibres, dairy produce, beef, lard, etc., in overseas regions which, though far distant from the places of ultimate consumption, offered the economic advantages of extensive cultivation with cheap land and virgin soil in almost unlimited quantities. With the help of technical inventions of all kinds, labour-saving machinery, refrigerating, packing, and preserving processes, storage and agricultural chemistry, the advantages offered by the progress of transportation were fully realized and the law of diminishing returns with all its disadvantages to the economy of the Old World lost its force.

As regards industrial production the case was somewhat different. Here we have to distinguish two features of the change, which, however, as we shall describe later on, led to the same results in respect of the new organization of industry. Mineral resources, though scattered all over the world, are so far as concerns their main and most important deposits concentrated upon a relatively few points on the civilized earth, a fact which only really gained importance when the revolution in transport enabled far distant countries to draw their supplies from almost any part of the world. It was only then that the geographically concentrated deposits of the earth became available

to any district or countries requiring them, while local or regional production of industrial raw materials lost its importance in those cases where it was carried on not because of its cheapness of supply but because it had been adjacent to the places of consumption.

While agricultural producers of the old countries of civilization—feeling the strain which intensive cultivation suffered in competition with virgin cultivation—had in many cases recourse to measures protecting them against the invasion of the produce from distant places of the world, industrialists were to a great extent only too happy to be able to procure their most essential raw materials at much lower costs. Tariffs on minerals or industrial raw materials of any sort have not played any important role in modern commercial policy. Besides, it must be borne in mind that in many cases the progress in transportation did not mean an increasing dependence on foreign resources. In countries with an extensive economic territory it meant, in a great number of cases, a transition from local fields of production to geographically concentrated national fields. Examples of this are the iron and steel industries of the U.S.A. and Germany. In the U.S.A. the progress in transport, sketched in the foregoing section, simply meant a concentration on the—now far greater—iron ore supplies from the Lake Superior districts instead of utilizing the local ores of the eastern coast districts (east of the Alleghenies), and a utilization of the vast coal-fields in the Connelsville region, to which the ores were to be transported. In Germany, in a very similar way, the minette ores of the Lorraine-Luxemburg district were brought over a distance, which under more primitive conditions of transport would have been economically insuperable, to the Rhenish-Westphalian coal-fields.[1]

[1] Cf. Hermann Levy, loc. cit., *Die Stahlindustrie*, pp. 20 ff., and as regards coal, pp. 66–7; for the German conditions, Hermann Levy, *Industrial Germany*.

The question of the detrimental effects of such locational changes on the chief mining interests of former times could hardly arise, as the new development was of an indisputable national importance. The competitive effects of "free trade", so much combated in the sphere of agricultural changes brought about by the revolution in transport, were quite unhampered in this sphere though they were brought about by the same circumstances of cheapened and improved traffic. Thus it was possible for the mineral wealth of the world to be drawn upon by all industrial nations regardless of where its main centralized deposits had been placed by nature. Of course, this development was dependent on many technical innovations as well, as for instance the development of iron ore mining in the northern parts of the U.S.A. by the most ingenious introduction of the steam shovel, or in oil production the "invention" of the pipe-line system. Moreover this development does not seem yet to have reached its final stage. There are plenty of regions in the world where the exploitation of industrial raw materials still awaits further progress in transport facilities. Thus in the Final Report of the Dominions Royal Commission it was stated, concerning supplies of iron ore in the Union of South Africa that: "if, therefore, the transport costs could be arranged on a basis which could make shipments possible to Great Britain, there need be no apprehensions as to the magnitude of the supplies available," and as regards coal it was stated that the production was "utterly insignificant in comparison with the actual existing deposits".[1] Similar observations may be made on the mineral possibilities of China.[2] But apart from such cases of natural wealth not yet touched by modern transport facilities or still waiting

[1] Cf. *Dominions Royal Commission Final Report*, 1918, pp. 104–5.
[2] Cf. *Department of Overseas Trade Report of the British Mission to the Far East*, 1931, pp. 75 ff.

for all kinds of economic, financial, or even political difficulties to be overcome, the world of mineral and other industrial wealth has been fairly generally explored and exploited since the great revolution in traffic conditions set in, and the result can be judged from a glance at some figures relating to the geographical distribution of the production of these materials and showing their concentrative exploitation in the international economic sphere.

A very conspicuous and at the same time most important example is that of coal. Of course, the time when coal was produced merely locally regardless of how high were the costs, had come to an end early in the nineteenth century, but this did not by any means imply the centralization of coal supplies, which is shown by their modern geographical distribution. In 1932 the coal production of the world amounted to almost 950 million metric tons (exclusive of "brown" coal or lignite): of this the U.S.A. alone produced 322 millions, Great Britain 212 millions, the German Reich and the Saar territory 114 millions, and France 46 millions. In fact four countries were responsible for a production of almost 700 million tons out of the 950 millions of the world. But this does not exhaust the phenomenon of geographical concentration.[1] In the U.S.A. most of the exploitation of coal takes place in three States, in Pennsylvania, in West Virginia, and in Kentucky. These States were responsible for a production of about 350 millions short tons of bituminous coal out of 519 millions produced in 1927,[2] that is immediately before the turn of the tide of prosperity in 1929. But concentration becomes still more evident if one takes into consideration that these coal-districts are in fact merely sections of two huge coal-fields in the geological sense, the famous

[1] The figures which follow relating to international statistics of production are, if not otherwise mentioned, taken from the *Statistisches Jahrbuch für das Deutsche Reich, Internationale Übersichten*, Berlin, 1933.

[2] Cf. *Statistical Abstract of the U.S.A.*, 1928, p. 729.

Connelsville field near Pittsburg and the Appalachian coal-field in Kentucky and West Virginia, the latter promising to-day to become the most important coal region of the U.S.A. inasmuch as the Connelsville area is rapidly nearing exhaustion.[1]

A similar observation is relevant in respect to German conditions in coal production. Here there is the Rhenisch-Westphalian region including the Ruhr district on the one side, and Upper Silesia which is a geographically well integrated coal area on the other. The predominant position is held by the Ruhr district. In January, 1934, the Ruhrbezirk produced 7,639,806 tons of coal, while all other districts together produced 2,794,476 tons. Of course it must not be overlooked that the German Steinkohlen industry has, since 1918 and the occupation of the Ruhrgebiet, experienced the rise of a new competitor in the form of the briquette-making industry and the use of brown coal (lignite). The production of lignite, which in 1913 had amounted to not more than 87 million tons, had risen in 1933 to 122 millions. But here as well there is geographical concentration. The production is centred in two districts, in the so-called "Middle German" area and the Rhineland.[2]

If taken as a single national unit in the international sphere the English coal production would also appear to come from a well-defined concentrative district. But this view would only be correct if one considers the coal-fields of the world from the standpoint of international supply. Considered from the point of view of national geographic supply the English coal-fields, being scattered all over the country, have not shown the characteristic features of concentration. While the Connelsville or the Appalachian or the Ruhr district are centres of production supplying a wide

[1] Cf. E. D. MacCallum, *The Iron and Steel Industry in the United States*, London, 1931, S. 47 and *passim*.
[2] Cf. Hermann Levy *Industrial Germany*, pp. 25–6.

radius of demand from a central point, English coal fields are decentralized with respect to the supply of coal to the consuming industries. In fact the development of the English coal-fields belongs to an epoch prior to the transport revolution, since the special features of the country, its small territory, its exceedingly favourable shipping facilities by rail and inland waterways made economic transport of coal possible to almost any spot of the island from about 1850 onwards. In England and for the supply of English industrial needs coal was ubiquitous. In the U.S.A. and Germany it was geographically centralized. This holds true in spite of the fact that in the iron and steel industry it was not coal that was transported to the iron ores but—in accordance with technical conditions of economy—the iron ore that was for the most part transported to the coal districts. This applies to the Lake Superior ores which were transported to the Connelsville district just as to the minette ores of Lorraine-Luxemburg which were brought to the Rhenish-Westphalian coal-fields, a development which has been interrupted to some extent in later years, as regards Germany, by the expansion of iron and steel manufacture in Lorraine-Luxemburg, and as regards the U.S.A., by the development of this industry along the shores of the Great Lakes.[1]

But so far as concerns the importance of transport development in the geographical structure of industry this development matters little, as in any case in both countries the characteristic feature remains that central coal-fields have become the suppliers of the iron industry, either by attracting iron ore even from a long distance to the area in which they are situated, or else by being enabled to supply coal economically to far distant iron ore districts.

In England the transport problem in relation to

[1] Cf. Hermann Levy, *Industrial Germany*, chapters on Mining and on the Iron and Steel Industry, and MacCallum, loc. cit., pp. 47–8 and *passim*.

iron ore has been very different. The English iron ores have to be transported about 45 miles before they reach their destination; the relatively small amount of ore which the Rhineland can obtain from mining districts near at hand, the Siegerland and the Lahn district, have to be carried about 50–100 miles to the furnaces, not to speak of the far greater distances (at least 200 miles) from Lorraine-Luxemburg.[1] Like coal production so also the English iron ore production was scattered over many districts, so long as home ores were still predominantly used by British iron makers. In 1882 the output of iron ore in the United Kingdom still amounted to 18 million tons, of which 6·5 were produced in Yorkshire, 3·1 in Cumberland and Lancashire, 2·2 in Staffordshire and Shropshire, 2·4 in Scotland, while Lincolnshire and Leicester produced 1·5 and Northamptonshire 1·5 million tons.[2] Here we have the very reverse of the conditions under which iron ore mining developed geographically in the new areas of the U.S.A. or Germany. Later, when the English iron industry became more and more dependent on the import of Swedish and Spanish ores, the situation changed, as in fact these two districts now represented some sort of centralized sources of supply for the English market. We shall see on a later page what have been the effects of this change on the structure of the industrial unit in the English steel industry.

We shall now give, in somewhat less detail, a few further examples of geographical centralization of internationally important raw materials under the influence of world economic interconnections. In former days potash was derived by various costly processes for the local supply. The huge mining deposits could not be utilized prior to the cheapening

[1] Cf. *Further Factors in Industrial and Commercial Efficiency*, 1928, p. 208.

[2] Cf. *Survey of Metal Industries, Committee on Industry and Trade*, 1928, p. 117.

of transport. To-day the amount of potash not derived from mining is trivial, while production is mainly centred in a few districts. Before the war Germany was the sole producer of mined potash in the world. Since 1918 the deposits of Middle Germany are left to Germany, while the deposits of Alsace and Lorraine have fallen to France. In 1932 Germany produced 6·4 million metric tons of unmanufactured potash, while the French districts produced 1·9 million. A long way behind came the production of Poland with 300,000 tons and the U.S.A. with 129,000 tons. Since 1933–4 the prospects of potash production in Spain have been greatly increased, and there are possibilities of Russia becoming an important supplier. But though such developments would certainly weaken the monopolist position of the two regions now responsible for the main part of the world supply, they would not bring about anything like decentralization, as the centres of international supply would merely become more numerous.

The world's production of oil was 1,304 million barrels in 1932. The U.S.A. alone were producing 781 millions of this output, and there was Russia producing 155 millions, Venezuela producing 116 millions, Roumania 52 millions, and Persia 49 millions, while other producing countries showed much less important results. Geographical concentration is evident. The same applies to copper ore; the U.S.A. with a production of 30 million tons of copper ore in 1931 stood in the forefront. The next biggest producer was Chile with 14 millions. The figures of other producers were negligible in comparison. In manganese ores international production is concentrated in the Gold Coast and the U.S.A. In zinc ores the U.S.A. showed a figure of 5·4 millions of tons in 1930, while other countries were producing at the most 400,000 tons. In natural phosphates the U.S.A. and Tunis-Algeria-Morocco were in 1930 far ahead

of all other countries with together more than 10 million metric tons, while two other countries Nauru and Banaba (Ocean Islands) and the Paumotu Islands produced 450,000 and 230,000 tons respectively.

An important example is represented by the modern structure of the world wood supply. Timber was, in former times, certainly one of the materials mainly derived from local sources and the destruction of woods in many countries speaks a sad language as to the recklessness with which this has been done. The aforementioned transportation of timber at a very early date from the Black Forest down the Rhine to distant places was a marked exception. To-day, however, the wood supply of the world has closely followed the cheapening of transportation and a centralization of striking degree has been the consequence. The production of timber (in cubic metres) is highest in Russia where it amounted to 183 millions in 1926, the next important producer is Canada with 87 millions in 1929; then follows Japan with 64 millions (bamboos excepted) in 1930, Germany with 49 millions in 1927, Sweden with 47 millions on the average from 1923 to 1929, Finland with 46 millions in 1927, and the production of France, Poland, Roumania, and Italy is much less, ranging from 20 to 25 millions. While old industrial countries like Germany and France continue to account for a substantial amount of the timber supply, it becomes evident from these figures that new central world economic points of production have been developed, which, like Russia, Canada, Sweden, and Finland, are producing very much more than their own requirements, and are in fact the suppliers of places of heavy demand far beyond their borders. Such is the position of Canada in regard to the paper industry of the U.S.A.—which had at an early date devastated their originally vast timber resources—and of the European timber countries in regard to the supply of Great Britain

and other countries which lack forests of importance. Transportation facilities have in fact been responsible for the creation of quite new centres of production in the world supply of timber.

These examples are sufficient to show how far transport facilities have been active in centralizing the production of important raw materials within those international areas where they are most abundant, irrespective of the distance to the places of ultimate demand and consumption. Of course, this course of development should not be regarded as absolutely universal. There are certainly cases where in the nature of things conditions are different. There is, for instance, the case of cement. This material shows a distinctive contrast as regards its world economic geographical distribution when compared with coal, iron ore, potash, and many other minerals. Cement is produced in almost every industrial country. As the raw material for the making of cement can be supplied in almost any part of the world, it is in general the regional demand which dictates the location of the industry, and the principal consuming countries have become the principal sources of supply. Thus in 1932 the U.S.A. produced 13 million metric tons, Great Britain 4·3, Japan 3·7, Germany 2·7, Italy 3·1, France (in 1930) 4·9, Russia (in 1931) 3·3, and Belgium-Luxemburg 2·0 million tons. The proportionality of the figures is striking and is in sharp contrast with the foregoing figures of centralized production of industrial materials.

The tendency towards international centralization of industrial raw materials has, of course, been largely responsible for the progressive division of nations into those which export mainly manufactured goods and those which are exporters of raw materials. As the overseas production of industrial raw materials increased, new markets for the goods of the old civilized countries, excelling in the finishing trades,

were opened up. A new international division of labour arose.[1] A significant example of such development can be taken from German statistics relating to the period of the great transport revolution between 1870 and 1913[1]:—

	Percentage of the total			
	Imports of German Empire.		*Exports of German Empire.*	
	1873.	*1913.*	*1873.*	*1913.*
Raw materials and half-finished goods	48·0	58·0	34·4	26·3
Finished goods	20·9	13·7	40·2	63·3

§ 9. *Effects upon the Location of the Stages of Production*

The world economic effects of the transport revolution upon industrial production were not limited to the fact that central regions of international raw material supply were created. Viewed from the standpoint of the old industrialism and not from that of the newly rising centres of raw material, it was the very structure of traditional industrial production which underwent decisive changes.

The transplantation of the supply of raw materials for industry to places far distant from consumption or further production meant a disruption and a regional separation of the stages of industrial production. Before this great revolution in transport facilities, there existed a strong local or regional interconnection between the supply of raw material and the later stages of production. So long as freight on heavy goods was relatively expensive it was certainly most economical to produce the finished article in the neighbourhood of the production of the raw material. Local mills, for instance, were erected in the corn-growing districts of each country or in the towns in proximity to such

[1] Cf. *Die wirtschaftlichen Kräfte der Welt*, edited by the Dresdner Bank, Berlin, 1917, p. 39.

districts. This was certainly the most economical way of " assembling " the raw material for its further manufacture into flour, and the larger milling factories arising in big towns were probably considered as being a great advance in the direction of large scale production as compared with the many thousands of small mills, scattered all over the country, which had been the rule before. Yet this structure of industrial production was still very " decentralistic " in comparison with the situation resulting from the modern sharp separation of grain growing from the centres of consumption. The enormous and uniform quantities of grain now being transmitted from far distant countries made it advisable to centralize milling operations at the points most economically located with reference to the supply of grain, that is, in the U.S.A. partly on the seaboard, and in the European countries at or near the great ports or on rivers having access to the maritime routes of grain shipment. A new milling establishment handling, the whole year round, huge quantities of grain of similar qualities thus arose and the traditional local connection between corn growing and milling was broken. As regards England this process has been indeed revolutionary. Fifty years ago there were 10,000 flour mills in England, all of relatively small size. To-day, when the requirements are much greater, nine-tenths of the output is produced by 300 mills owned by a still smaller number of firms.[1]

A similar process is to be observed in the case of dairy factories. The very term " dairy factory " is new. Butter-making was, up to thirty to forty years ago, an entirely local or regional affair; the only differentiation to be made consisted in the fact that large farms produced larger quantities than small holdings. Butter-making was not separated from the producing of the raw material—the production of

[1] Cf. P. Fitzgerald, *Industrial Combination*, 1927, p. 131.

milk. The progress in transportation made available to dairying countries like Denmark possibilities of export to markets which were far distant compared with those traditional to the farming communities, if only it became possible to handle daily large and uniform quantities. The process of butter-making was thus separated from that of milk production. Milk was collected—by co-operative organization—and manufactured into butter by central dairy "factories" working mainly for the export trade.

A similar development of still greater dimensions had the effect of separating the greatest meat consuming centres in the U.S.A. from the centres of livestock breeding and meat production. The local butcher drawing his supplies of livestock from neighbouring or adjacent farming areas was displaced by the "meat factory" and the meat-packing industry, thousands of miles away from the densest centres of demand, and he became left almost exclusively to supplying some high-class fresh meat desired by the richer classes. The possibility of supplying far distant places of consumption (by means of refrigerating facilities) meant a centralization of these places of demand when viewed from the point of view of far distant places of production, and concentration of demand rapidly found its expression in a concentration of production in some districts in the Middle and South-West on the one hand, and their exploitation by huge meat factories of an hitherto unknown size and technique on the other, to comply with a demand which was concentrated a long way off and which necessitated regular daily supplies of huge quantities and equal qualities. The importance of the transport factor in regard to this concentrative development is clearly shown, besides by other circumstances, by the fact that the big meat centres in the Middle-West supply a much larger percentage of the consumption in the far distant regions of the East of the U.S.A.—which

they supply with 85–95 per cent of their demand—than they do to the nearer places of demand such as Cleveland, Cincinnati, or Minneapolis, for which the percentage is much less.[1]

Paper-making offers another interesting illustration of the problem of the regional separation of stages of production as the result of transport changes. In the days of paper-making out of rags the best place for a paper factory was undoubtedly in the neighbourhood of great towns, as it was here that were to be found the centres of collection of raw material. In our days paper-making may be far removed from the source of the supply either of wood or of wood pulp. There is no longer any local interconnection between the stage of the collection of the raw material and the manufacturing stages. The production of wood is, as was shown before, to a great extent territorially centralized, while the manufacture of paper is now enabled to choose its location far away from these sources, at points best suited to the economic manufacture of the finished product. In 1931 the production of paper in Germany amounted to 1,800,000 metric tons, its production of wood pulp (chemically and mechanically pulped) to about 1,700,000 metric tons. In Sweden, however, the manufacture of paper amounted to 624,000 metric tons only, while her production of wood pulp of both sorts had risen to about 2,200,000 metric tons. Canada produced in 1931 about one-fourth of the amount of paper production of the United States in that year. But her production of wood pulp was about 400,000 tons larger than that of the U.S.A. The imports of wood pulp by the U.S.A. had risen from about 471,000 tons on an average for the period 1910–1914 to more than 1,500,000 in 1926.[2]

[1] Cf. for further details, Hermann Levy, *Die Vereinigten Staaten als Wirtschaftsmacht*, Leipzig, 1923, pp. 41–3.
[2] Cf. *Statistical Abstract*, loc. cit., p. 539.

In almost every big industrial country the iron and steel industry affords examples of modern regional separation of the various stages of production. In the U.S.A. the eastern seaboard displayed a characteristic local interconnection of the stages of production. The Adirondacks provided both the necessary iron ore and the charcoal used for smelting the iron. With the exploitation of the Lake Superior iron ore district, two far distant centres of iron ore and coal production were created, the iron and steel production being in the main linked to the latter. Between 1923 and 1927 the "Pittsburg District" produced 42 per cent of the total output of the country on the average and the equivalent of the combined output of Germany and France, a fact which Mr. MacCallum rightly interprets in saying: "No better illustration can be found of intensive localization of production." [1] On the other hand, an important change has recently been taking place in connection with the iron industry of the eastern seaboard region, a change which has enabled this district to continue to produce a considerable volume of output. The discovery of suitable foreign ores, particularly Cuban and Chilean ores, and economies in the use of fuel by way of the development of by-product coke ovens, which made it economically possible to bring supplies of coal from coal-producing areas to the eastern seaboard, have given a new stimulus to the iron industry of that region. There are besides imports of ores from other countries such as Sweden, French Africa, and Spain, and a considerable amount is shipped from the Lake Superior district. But the supply from the Adirondack ore mines is small in comparison with the shipments from far distant places of ore production. So the problem remains unaltered. The revival of the eastern seaboard iron and steel industry is based upon a

[1] Cf. E. D. MacCallum, *The Iron and Steel Industry in the United States*, London, 1931, p. 44.

regional separation of the stages of production, a development which contrasts markedly with the former conditions in that region of interconnected local supplies.

The development in the English iron and steel industry resembles in some way that of the old iron districts of the U.S.A. The development first took the form of a location of the industry near the ore-fields. This tendency was strengthened by the fact that fuel economy reduced the quantity of coal required below the weight of the ore smelted therewith, so that the balance of advantage shifted in favour of moving coal to ore. But as coal was in fact available almost everywhere in Great Britain, the local interconnection of the stages of production remained a characteristic feature. This was changed when transport facilities made it possible to obtain supplies of ores from far distant places. In so far as these ores were richer than English ores generally are, while the grade of English ores obtained tended to become poorer the stimulus towards importation from Sweden and Spain increased rapidly. Whereas before 1870 practically the whole of the pig-iron produced in this country was made from British ore, in 1925 more than 3·2 million tons of the pig-iron produced were made from imported ores, while 3 millions were produced from ore raised in the United Kingdom.[1] While, however, the imports amounted to 4·5 million tons, the ore raised in the United Kingdom amounted to over 10 million tons, a fact which reveals the much higher metal content of the imported ore.

With this development a regional separation of the stages of production has been going on in the British iron industry, and the direct outcome has been a change in the location of the later stages of manufacture as well. In order to avoid adding the heavy costs of land transport to the expense of sea carriage,

[1] Cf. *Report on Metal Industries*, 1928, p. 117.

and inasmuch as the products of the industry are immediately available for transport by sea to various markets when produced on the coast, it became advantageous to smelt the ores near the coast, especially where supplies of suitable coal were available.[1] Thus, the regional separation of the stages of production in the British iron industry became perfect.

German conditions are much more similar—in contrast to the resemblance of the English to the later development on the eastern seaboard of the U.S.A.—to those of the new American iron and steel industry. In fact the position of the former main sources of German supply of iron ores in Lorraine and Luxemburg, which are shipped to the Ruhrbezirk, and Rhenish-Westphalian districts in general, may be compared to the position of the ore-fields of the Upper Lakes in their relation to the Pittsburg and adjacent industrial districts, although the distance over which ores are transported is greater here and the means of transport technically more elaborate than in Germany. But here as there we find a regional separation of the stages of production within the national border, whereas formerly there had been local interconnection.

Since the end of the war the position has become different. By the treaty of Versailles the Rhenish-Westphalian industry lost its traditional sources of iron ores. The iron and steel industry could not turn at once to the import of foreign ores, since the inflation period from 1919–1924 exerted a strong check on such importation. Relief was sought in an increased consumption of inland ores taken from local districts—some of which would otherwise have ceased to produce iron ores at all (Lahn-Dill-Siegerland districts)—and up to 1924 by the increased use of scrap. This period seems thus to show a sort of set-back in the progressive regional separation of the

[1] Cf. *Report on Metal Industries*, pp. 11–12.

stages of production in the German iron industry. But although the heavier production of iron ore districts which had hitherto been neglected in favour of the far distant minette districts of Lorraine-Luxemburg has not entirely passed, after 1924 when exchange conditions were normalized, imports of foreign ores increased heavily. The imports of iron ore from Sweden rose from 4·6 millions in 1913 to as much as 7·4 millions in 1928. The geographical distribution of the German iron ore supply is to-day much more similar to the English than to the American.

Both German and English iron-makers get the bulk of their ore supply from abroad; but as regards the disruption of the respective stages of production in all three countries, the development was similar so soon as transport facilities had progressed far enough to allow supplies to be drawn from far distant centres of raw material production. Moreover it is interesting to note that as regards the location of the later stages of iron manufacture the experiences of Germany were the same as those of England, so soon as large supplies were drawn from overseas. There has been a growing tendency for the German iron-works which work up foreign ores to move from the original "Ruhr" district to the banks of the Rhine in order to get easier access to the river and the canals, and to profit from the facilities of cheap water transport. This tendency applies also to other districts. This movement corresponds to the development of the location of big English iron and steel works on the coast, as mentioned before.[1]

The predominant effect then of progressive transportation facilities on the geographical structure of industry has been the following: where raw material

[1] Cf. for conditions in German iron ore mining and the iron industry, Hermann Levy, *Industrial Germany*, pp. 41 ff. and 44.

deposits were centred in certain well-defined regions of the economically civilized or civilizable world these regions have become integrated centres of production and distribution regardless of the ultimate distance to the areas of consumption or further stages of manufacture. As compared with the former conditions of decentralized supply to local or regional markets this meant a concentration of production in certain points of world industrial development. In connection with this, but also as regards other processes of production in the later stages of manufacture, a locational separation of the stages of industrial production has resulted. The single stages of production have become regionally separated and distanced from each other. Distant centres of demand or consumption—as for instance the " English " market for Danish butter, or the " Rhenish-Westphalian " market for minette and later for foreign ores, or the Eastern American market for " manufactured " meat of the Middle- and South-West—now correspond to the centralization of the primary stages of production. The effect of both developments has been revolutionary in creating a new geographical concentration in the production of most commodities of world economic importance. Concentration of consumers' demand was the natural result of dense populations now being supplied from central far-distant points, and producers could now reckon with the consuming strength of whole countries or regions instead of a scattered local or regional distribution. Geographical concentration of the later stages of production was mostly the outcome of the desire to locate production most conveniently and economically in relation to the points of supply of raw materials shipped long distances in great bulk—so long as no other considerations predominated in designating the most economic location for the later stages of production up to the final product. All in all, these tendencies have led, if measured from

the world economic point of view, to a decisive geographical concentration of industry.[1]

To conclude these observations we may add that the existence and progress of standardized mass production need not always, and in every case, be bound up with the development of far distant markets representing a larger unit of uniform demand than local or regional ones. In a report on American conditions in respect of the concentration in industry resulting from the development of large combined undertakings, we find the interesting remark that a development of recent years has been the growth of large plants and the appearance of combinations in distinctively local industries. This does not refute our opinion about the importance of concentrated large-sized markets. For the Report goes on: "In such industries as steam laundries and bakeries the market geographically is small. But, with the growth of cities, the population served makes up in number what the market lacks in area. As the first quarter of the twentieth century drew to a close, it became evident that motor transport and the telephone were doing for baking, laundering, and some other industries in cities and their outlaying areas what railways and the telegraph had done for other industries at an earlier date on a larger regional and even national (we must add: and international.—H. L.) scale."[2] This development is by no means an exception to the rule, but simply a special case of the effects of the progress in transportation, and selling facilities of all kinds,

[1] As regards the later stages of production this tendency may be seen in the development of the iron industry. The movement of big English furnaces to the coast can be taken as a test of this tendency, although it has by no means led to that degree of concentration which exists in the U.S.A. of Germany. In 1927, however, the north-east coast produced 2·3 million tons of pig-iron out of a national total of 7·3. But it must be kept in mind that the largest furnaces were to be found in this district. As regards the higher stages of production the process has been less marked as here historical factors may play a larger part (cf. *Report on Metal Trades*, pp. 15, 22, and 118).

[2] Cf. *Mergers in Industry*, New York, 1929, p. 23.

on the development of bulk markets and on concentration in supply, leading to a concentration of productive units.

§ 10. *Concentration of Units of Production*

Geographical concentration and regional integration of industry are in general accompanied or followed by concentration in the units of production. But it must be emphasized from the beginning that this need not necessarily be the case. It will be recalled from what has been explained in a historical paragraph, that in the sixteenth to the eighteenth centuries the widening of markets, and the geographical concentration of production in certain districts well adapted to the supply of far distant markets, did not at once result in a wholesale revolution of industrial units, but merely led to a collective organization of their sales by industrial capitalists and to the putting-out system. Again, while during a large part of the nineteenth century English coal-mining enjoyed a monopolist domination on most foreign markets,[1] British collieries could by no means be considered as being "concentrated". And to give another example: in the German potash industry, which in the first thirty years of its existence might be taken as a classic example of geographical integration, the very reverse of a concentration of units was taking place; the increase of undertakings and pits was so much accelerated that in 1913 the number of undertakings had risen to 167 and in 1916 to 207.

These examples may be taken to show that it would be a dangerous generalization to contend that geographical concentration necessarily leads to a

[1] Cf. the classic paper by D. A. Thomas, later Lord Rhondda, "The Growth and Direction of the Foreign Trade in Coal," *Journal of the Royal Statistical Society*, London, 1903, p. 491.

concentration of units. On the contrary, it seems necessary to find out under what special conditions geographical concentration will lead to, or will support a concentration of the units of industrial production, either of works or of firms.

Before trying to explain this we must call the reader's attention to the fact that " concentration of units of production " may be used in a double sense. It may mean a state of affairs as well as a tendency. In general we understand by concentration of units of production a state of affairs in which the whole production is carried on by a few works or undertakings. The word " few " is not meant to be relative. Ten, twenty, or even thirty firms accounting for an overwhelming part of the whole production may be considered to represent " concentration ", because in former times it was in fact the rule to have many hundreds if not thousands of individual producers. On the other hand the term may be used to represent a tendency. In a given industry the aggregate production of one million tons might have been produced by 200 undertakings. If the same or even an increased output is after some time produced by, say, 150 firms, there is certainly a tendency towards larger units of production or commercial units resulting in concentration, although the state of affairs mentioned before is as yet by no means reached. In fact we may speak here of " concentration " in the sense of a development but certainly not in the sense of the feature characteristic of so many modern industries with a small number of producers.

Concentration in the first sense will in many cases be a consequence of the latter, but it certainly need not necessarily be so. There is a strong tendency towards larger units in the English pig-iron production; the average annual output per furnace increased from 3·4 thousand tons in 1840 to 9·6 thousand in 1873, and even to 30·3 in 1913 and 41·3 in 1925! Yet the

number of furnaces was as great as 482 in December, 1923, and the units of production could certainly not be described as representative of " concentration " —indeed the contrary was rightly asserted by those who were eager to bring about cartelization in the English iron industry—although doubtless the tendency towards concentration had not been lacking.[1] Moreover a " tendency " towards " concentration " in the first sense is by no means always a necessity, inasmuch as the term does not have any dynamic meaning. Modern industries, like rayon, oil refining, many chemical industries, electrical lamps and electrical engineering, but also the making of rails, have in every country been limited from the start to a relatively few number of producers, because the very technique of production in such industries did not allow of the rise of a great number of separate competitors. So it may be stated that there is a considerable diversity among the facts surrounding the term " concentration of industrial units " and it may be useful to consider them in detail.

It is a fact hardly needing proof that geographically concentrated mass production, resulting from the bulk supply of far distant markets by concentrated places of production, will be most economically served by organizing the sale of produce on a large and uniform scale. Concentrated demand means mass demand and mass demand is served most cheaply by uniform products. As regards mineral produce this meets with no difficulties as a rule—although the great qualitative diversity of English coal may be quoted as an exception —as mineral produce is in general of a uniform quality. Mining or the production of mineral wealth of any kind has always been a sphere of relatively large industrial units or of commercial units selling on a large scale, although this tendency has become still more pronounced with the application of machinery. In so

[1] Cf. *Metal Industries*, loc. cit., pp. 7 and 22–3.

far as the product becomes more dependent upon manual and skilled labour the situation changes. Another technique, based upon a more elaborate exploitation of the principles of division of labour, becomes necessary, and this again necessitates the replacement of the artisan first by the factory system and later on by an ever increasing application of labour-saving machinery as markets are extended and a new impetus is given to an increase of mass production.

Uniform supply of mass demand, as created by long distance supply of goods, must always be based on some concentration either of production or at least of the assembling of goods at or near the centres of production. This necessarily means large units. Apples grow. It is impossible to supply large and uniform markets with the product if it is grown in the old-fashioned ways of local or regional distribution practised by smaller or larger farms of the traditional European structure. Irregular supplies of fruit lacking in uniformity have always been characteristic of it. When it became possible in the U.S.A. to supply the far distant markets of the East with the fruit of the West, an entirely new organization of the supply became necessary. It was no longer possible to let apples "grow". They had to be "manufactured" in large and uniform masses which could easily be handled in huge quantities, and the modern American apple, raised on large fruit farms or plantations, one looking like the other, and even marked with a "brand" like a trade-mark article, was the result. A new system of "grading" became necessary in connection with the mass supply of fruit, and this meant mass assembling of the product on the one side, and the sorting out of huge quantities by quality considerations on the other, both functions being realizable only by large scale establishments. It is reported that the Banana Trust, the United Fruit Company, refuses no less than

eight million bunches of bananas a year, that is about 12 per cent of the whole production.[1]

Where the nature of production makes it impossible to resort to large scale manufacture when markets are widening, it may happen that some of the stages of production are singled out by industrial capitalism in order to create a system of mass supply. This, for instance, is what has happened in the Danish butter manufacture by large co-operative dairies. As we have already mentioned, the process of production has become disintegrated, the small farmers being left to the supplying of milk while butter-making has been "factorized" on a large scale. This shows also how eagerly any possibility of large scale production is sought, wherever bulk distribution to concentric markets becomes possible.

But as we have tried to show in a former chapter, the process of increasing large scale production has been going on all through the last century, while no general or definite concentration of units has been noticeable. This concentration seems indeed to be the outcome of a change in the relation between the increase of production as caused by the widening of markets on the one hand, and the technique adapted to the demands of increased production on the other. The optimal size of the industrial unit is very much dependent on relations of this kind. Technical progress, consisting in part in the application of labour-saving machinery, may be able to follow the increase of mass demand and mass production, but it may also lag behind. The aim of manufacturers will always be to profit from the possibilities of increased sales through an increase of production, and this may in many cases lead to a much more extensive application of machinery and to an expansion of the technical productivity

[1] Cf. for an interesting discussion of the transformation of the supply of quality goods in connection with modern changes in transportation, Professor Hermann Schumacher (of Berlin University) in *Der internationale Kapitalismus und seine Krise*, Berlin, 1932, pp. 43 ff. and 71.

of the most efficient industrial plants far outstripping the proportional increase in the total production of industry in question. But, of course, this depends largely upon the degree to which technical progress is able to realize the possibilities inherent in the development of mass supply to concentrative markets. In a country like the U.S.A. where, on the one hand, there has been the greatest possible chance of concentrative supply for far distant markets within the national territory itself, and where, on the other hand, the relative scarcity of labour and the high wages themselves stimulated the greatest possible elimination of hand labour, technical progress was most likely to run parallel with or even surpass the development of mass production and to lead to concentration of units in the period of transport revolution. It must also be remembered that American economic propaganda did everything to encourage a greater uniformity of wants, so far as this did not already follow out of a natural uniformity of a "newly" civilized population much less differentiated in its wants and habits than the people of old European culture. Certainly this uniformity, greatly supported by the propaganda for "brands" and labelled goods of all kinds, has greatly helped the economics of modern American mass production, the application of labour-saving machinery on a vast scale, and by way of this the concentration of industrial units.

A very interesting example of the concentration of units of production is afforded by the development of the manufacture of pig-iron. As we have stated in a former paragraph, the number of pig-iron furnaces in England had been rising steadily between 1796 and 1880, although production in this industry had, of course, increased in a much faster proportion. From 1880 to 1913 the increase of production was greatly accelerated and at the same time the number of furnaces *working* (these have to be carefully

distinguished from the number of furnaces *existing*) diminished heavily, from 567 in 1880 to 338 in 1913, while ten years later the figure had gone down to 203. This is a real concentration of the units of production. There is, however, some considerable contrast between these figures and those of Germany or the U.S.A. In Germany, in 1929, the furnaces actually in blast amounted to 115 with a total production of 13,240,000 tons of pig-iron.[1] In England, on the first December, 1929, the furnaces in blast were 162, while the total amount of pig-iron made in that year was no higher than 7,580,000 tons.[2] It is evident that the concentration of units had progressed greatly in Great Britain, but that the degree of this concentration absolutely as well as relatively (i.e. in proportion to the amount of pig-iron produced) lags far behind German conditions.

In the United States the process of concentration of units of production in blast furnaces also began with the decisive changes in transport facilities, based upon a general expansion of inland markets, after about 1880. The technique of pig-iron production was completely revolutionized along the lines of the European (then English) model, and the effect was that in a relatively short time the unit of production in the blast furnace section actually showed more marked concentrative features than in the old rival countries of Europe.[3]

In 1925 the average output per furnace in blast was as much as 138,000 tons in the U.S.A., 96,900 in Germany, and 41,354 in England, while that of the furnaces in Scotland was no more than 20,557.[4] In the case of the U.S.A., official figures of the individual furnaces in blast are not available. But the

[1] Cf. *Die deutsche Eisenerzeugende Industrie* (*Kartellenquete*), 1930, p. 33.
[2] Cf. *Statesman's Year Book*, London, 1931, p. 52.
[3] Cf. for details Hermann Levy, *Die Stahlindustrie*, etc., pp. 70–5.
[4] Cf. *Metal Industries*, p. 23.

figures of the single establishments operating blast furnaces are characteristic enough. While in 1869 there were still 386 establishments making pig-iron, the number had declined to 116 in 1927, while production had increased from 1·8 to 36 millions of tons.[1] A more striking example of concentration of units, and in this case of "firms", can hardly be imagined, as in fact even so early as in 1904 it was estimated by the author that about 77 per cent of the whole pig-iron producing capacity of the country was centred in not more than 21 establishments, while in 1928 the United States Steels Corporation alone controlled no less than 40 per cent of the whole of the country's output of pig-iron.[1]

It might very well be argued that one establishment may contain a great number of furnaces. But over and against this the figures relating to the enormous average quantity produced in the U.S.A. by the single furnace points to the fact that the concentration in the number of furnaces has not been lagging behind the concentration in establishments. There can be no doubt about the influence which technical progress in the U.S.A., as also in Germany, has had upon this development. The excellent *Report on Metal Industries* of 1928 stated expressly that blast furnace practice in England was lagging a good deal behind Continental and American practice, though, of course, a great advance in efficiency had been made in the last years. The Report stated that there were "few British furnaces equal in size to the large furnaces abroad".[2]

This differentiation in the international aspect of the concentration of industrial units in a branch of industry which shows a great uniformity in its general features deserves special attention. It is certainly wrong in this case of the iron-masters to

[1] Cf. Levy, *Stahlindustrie*, pp. 127–8, and MacCallum, loc. cit., p. 121.
[2] Cf. loc. cit., p. 27.

attribute the relatively slow development of the concentration of units to a lack of wisdom on the part of English manufacturers. As we have said in a former chapter, reluctance to adopt the most up-to-date sort of technical equipment may for some time react upon developments of this kind, but it will never hold them back in the long run. The English Report mentioned quite rightly emphasizes another point, which fits in very well with our line of thought, in stating that the capacity of furnaces is to some extent governed " by the average volume of orders available throughout the year ". Indeed, this condition has been fulfilled much more exactly in countries with a well-defined geographically concentrated mass production.

There is in England neither a Pittsburg-Cleveland area nor a Chicago area nor a Ruhr district in the iron industry. The general increase in the quantities of English pig-iron produced has, so far as it was meant to serve far distant export markets, certainly resulted, as was said before, in a stronger development of the industry on the coast, but this has not had the positive result of bestowing on the English blast furnaces or blast furnace establishments, for mere technical reasons, that kind of concentration of units experienced in the U.S.A. and Germany. A great deal of local and regional supply remained and this was quite sufficient to keep the size of the furnace plant from developing into the huge type of the American or German kind. Thus we have in English pig-iron making a great deal of what is now called in German " Streuung ", a sort of " strewing " or " dispersion " instead of concentration. The output per furnace varies from an average in 1925 of nearly 100,000 in South Wales and Monmouthshire down to no more than 20,500 in Scotland.

This state of things was to some extent the result of historical conditions. It was reported that in Scotland

the blast furnaces were nearly all old furnaces constructed at a time when Scotland had her own ironstone, obtained, together with flux, from the coal mines. The furnaces were all small and are now dependent on foreign ores, and as Scotland has no good coking coal the fuel used is pit coal. But the important point seems to be not so much that here or there a number of old-fashioned furnaces may be working—for this also happens in countries with a high degree of concentration of units of production[1]—but rather that the general average of efficiency is less than in the U.S.A. or Germany. There is, indeed, no other explanation than that previously mentioned, namely, that markets for English pig-iron have not yet shown that degree of concentrated mass demand which does exist and has for a long time existed in the other two countries. When, for instance, it was stated in 1925 that the mechanical hand charging gear, now used by about one-quarter of English blast furnaces, was in much more general use on the Continent, while at the same time it was being claimed by the British manufacturers that " in some conditions " hand charging is more efficient, it is just this " in some conditions " which matters. For they probably consist in the fact that, in many cases of English pig-iron manufacture, the conditions of mass production, as vested in a high volume of regular sales, has not been so fully active as to make it economically advisable to perform every operation of the production by mechanical force.

The problem of " strewing " remains important for the further progress of the concentration of industrial units. Two sides of the problem must be distinguished. On the one hand a state of affairs which still shows

[1] Cf., for instance, conditions in the U.S.A., where there are still " merchant furnaces " of a relatively small scale in existence alongside the huge steelwork's blast furnaces, and also small furnaces which may be used for temporary operation under special circumstances. Cf. MacCallum, loc. cit., pp. 39 and 43.

an irregular and wide dispersion of industrial production of a certain kind over one area may be the outcome of historic development, and may only slowly alter as conditions of concentric mass production arise out of changed conditions of distribution. On the other hand " strewing " may be not so much antiquated and merely a matter of adhesion to traditional development, but rather a consequence of the fact that the condition of concentration of industrial units is still lacking or is developing at a slower pace than might be the case under circumstances of a greater geographical concentration and economic integration of production.[1] At any rate the problem of concentration of units of production does not allow of any " absolute " solution. If the *Report on Metal Industries* very cautiously asked, " May not a somewhat smaller unit of plant, if well balanced, and operated with every attention to detail (and possibly grouped with similar plants in a single business organization, so as to facilitate specialization and reduce selling expenses) be equally or more successful ? " the answer can only be that this entirely depends upon whether the conditions of bulk production do or do not exist. The answer would be decidedly in the negative, in the case that mass production based upon mass sales should be the definite aim of producers. Where this is not the case the answer might be in the affirmative. Under such conditions it may indeed be more advisable to adhere to smaller units. But this would not justify anything like a theory of the absolute superiority of the one size or the other. The question remains essentially relative.

Studies on the measure of " strewing " in different branches and sections of industry would probably reveal an interesting picture of the conditions surrounding the concentration of industrial units of production. They would also reveal significant tendencies acting

[1] Cf. some interesting reflections leading to similar conclusions in the *Report on Metal Industries*, p. 29.

against the development of the concentration of units of production or at any rate diminishing the speed of this development. Professor Goetz Briefs, who has acquired a fairly exhaustive knowledge of German as well as of foreign industrial developments, has tried to enumerate the factors leading to or keeping alive "Streuung"[1] in different industries. He distinguishes between provincial, regional, and local strewing of industry. In fact, in Germany and in some parts of the U.S.A., manufacturing occupations of many sorts are strewn over districts of a general agricultural character, and Briefs compares this state of affairs to that of the "strewing" of separate strips of land owned by individual farmers in the days before the replacement of open-field farming by enclosures (Gemengelage). This kind of strewing has been able to last either because such manufacturing occupations use raw materials that can be obtained locally, or because they have favourable conditions of labour supply. There may, for instance, be regional or local groups of workmen especially trained through generations for a certain industrial occupation, or there may be conditions of labour affording certain special opportunities, as for instance in regard to the cheapness of labour supply, as is the case in the mountain districts of Saxony. Such strewed industry may also find its economic basis in being advantageously situated relative to the places of sale; an example of the case of local sales is the local brewery or local brick-making, and an example of the case of provincial markets, especially in countries with a wide territory, the medium-sized mills.

We may also call attention in this connection to the vast field of "industrial art", which has received due recognition recently in English official statements.[2] By

[1] Cf. Goetz Briefs, "Revierbildung und Streuung der Industrie," in *Archiv. für Sozialwissenschaft*, March, 1932, pp. 29–52.

[2] Cf., for instance, *Factors in Industrial and Commercial Efficiency*, London, 1927, pp. 336 ff.

this is to be understood not the production of individual works of art or some quasi-art produced by artists or artist-craftsman, but a regular kind of industry concerned with art in relation to manufacturing industry. This branch of industrial work is mainly concerned with the supply of designs and patterns which may, of course, be dependent in some degree upon very widely differentiated tastes and demand. Yet even here, a movement in the direction of concentration is to be noticed. It can be noted from official English sources that, as a general rule, in proportion to the increase of sales of manufactures and the development of methods of " mass production " the volume of demand for new designs tends to shrink relatively to the total output, inasmuch as one design suffices for an increasing volume of production. This is concentration. It may be regretted from the artistic point of view which aims at a great diversity of designs, and the existence of which has indeed been much to the advantage, for instance, of the British textile industries and their exporting efficiency. Yet mass production has once more forced its economic laws on the system of production, as a minimum quantity of goods has to be produced from the same design before it can be said to " pay ". In cotton manufacture, for instance, the quantity varies from 50,000 yards (for the cheapest Indian market) to 3,000 yards (cretonnes, etc., for the home trade).

In connection with the problems discussed in the last paragraph it is important to note that again, where markets are large, as in the case of exports of standardized goods of cheaper quality to far distant export markets, the concentration in the production of patterns and designs has been going on to a remarkable extent. " The volume of the aggregate demand of modern industry for new designs is much less in proportion to output than in the days of smaller industries and crafts," states the *Report on Industrial*

and Commercial Efficiency, and it is also interesting to note that this sort of "concentration" has been accompanied by that disintegration in the stages of production which was explained on a former page, as in fact there has been in many cases a complete separation of creative design from manufacturing processes, a thing which was unknown in the days of smaller units.

The large unit of production, once formed, may of course be in a much better position than the smaller factory to comply, on an economic basis, with the demand for a great variety of patterns. While the small unit feels the superiority of the large factory in selling large and uniform quantities and thereby reducing proportionally the cost of patterns and designs, it is not able to increase its competitive strength by offering greater variety of patterns or designs, because it cannot find markets large enough to allow of the economic application of the most up-to-date technical methods of production. This is, for instance, shown by the example of the linoleum industry. The superiority of the big units consists partly in that they are able to keep a much greater variety of designs and patterns than their smaller competitors, a fact which has greatly assisted the formation of big units in that industry. The biggest German concern, for instance, the "Deutsche Linoleumwerke", alone keeps no less than 2,000 patterns.

A study of the spheres in which "strewing" as contrasted to concentration still exists will lead, from another angle, to the same result with regard to the modern form of the unit of production in industry. The same provincial, and local conditions, which have in many cases—and especially in the European countries of older civilization—kept up the economic possibility of scattered or dispersed production (though on a factory basis), have at the same time resulted in a preservation of the relatively smaller type of the unit of production. This should be borne in mind, when

English and German conditions, for instance, are compared. Although German heavy and ordinary industry is in general more concentrated as regards the unit of production than the English, the fact remains that large parts of German industry are still left to the older forms of the industrial unit, as the wider economic territory does not give so much weight to the cheapness of transport as is the case in England, and the greater extent of agricultural production along traditional lines (grain growing) has not resulted in so sharp a dismemberment of industrial and agricultural communities as in England. In Germany this tendency has been bolstered up partly also by State interference. There has, for instance, been a high degree of concentration in the German beer brewing industry, which not so long ago had been so closely linked up with local and regional conditions of supply, that in 1913 no less than 10,159 commercial breweries (the territory of the Reich of 1918 being taken as the basis) existed, which were reduced to 4,703 by 1931. In fact these figures do not give a characteristic picture of the degree of concentration which has been taking place among large scale German breweries, since companies like Schultheiss-Patzenhofer, Engelhardt, very important Munich breweries, have widespread ramifications, but the figures may still be taken to show that "strewing" has been greatly diminished. In contrast to this, another industry of similar character, distilling, has been specially looked after by the State, as its intimate connection with farming in Germany has for a long time been a reason for a sort of "policy" protecting small and medium sized undertakings by fiscal and other measures from being ruined by large purely industrial concerns. Thus the concentration characteristic of the state of this industry in England has not yet developed in German distilling.[1]

[1] Cf. Briefs, loc. cit., p. 40.

The conditions of " strewing " or the scattering of still large numbers of small sized undertakings over branches of industry are not merely a matter of description. It becomes a problem of very deep divergences of view when the question is raised whether the existence of smaller units among or outside the sphere of big units can be justified economically. Professor P. Sargant Florence, of Birmingham University, has dealt very exhaustively with this question in a study called *The Logic of Industrial Organization*,[1] and he has taken care, in discussing the " discrepancy between theory and fact " in regard to the unit of production, to enumerate the various circumstances which, in his opinion, have led to a wider " scatter " in the size of firms or plants than " efficiency justifies ". " There is a real difficulty in finding any typical size in most industries, and even when there are signs of such typical size it may be considerably less than the ' optimum ' most efficient size. This smaller than optimum scale may be the logical consequence of physical restrictions limiting the size of the market, the sources of demand; or of physical restriction limiting the supply of raw material and other factors of production."

In many instances the physical restrictions enumerated by Florence correspond to those we have been explaining just previously. But Professor Florence quite rightly adds that besides such restrictions there are others, resulting from a lack of willingness to adopt the best forms of industrial efficiency. There is the " dead hand of past technical conditions ", the traditional behaviour of the consumer which may prevent a uniform supply of goods, and so forth.

While one may be reluctant in agreeing with Professor Florence as to the " Logic " of industrial organization so far as his " physical " conditions

[1] Cf. P. Sargant Florence, *The Logic of Industrial Organisation*, London, 1933, pp. 42 ff. and *passim*.

are concerned, as in fact " logic " will always be a function of mind and relative to means and ends but not to causes and effects,[1] one may certainly agree with him as regards the fact of ill-logicality acting as a check on the formation of large industrial units, so far as these would be justified by the material economic conditions, and one may include cases of State interference leading to such results, as we have just mentioned above. But though Professor Florence's book is certainly one of the best and most refreshing which have been written on the subject, one feels bound to criticize him when he asserts that " in point of fact, however, most productive and distributive industries in England, America, and other supposedly efficient countries were shown to operate on a small scale ",[2] and that this kind of organization should be called " illogical ". This manner of approach would, we are afraid, lead immediately and necessarily to an attitude claiming the large-scale plant or enterprise as " the " efficient form of organization of industrial units and this again would not be so very far from the aims of totalitarian planners. In fact Professor Florence lays stress on the fact that he has suggested " practical steps toward a more logical and more efficient plan ".

But we must ask whether such a one-sided view of the ideal size of the unit of production is justified at all, and whether it is not the result of over-rating the psychological checks to the formation of bigger units and underrating the importance of the material (" physical ") conditions acting against it, or in other words, whether it is not the result of confusing illogicality with necessity. " Large scale " production has a relative meaning. A big unit in England may be considered a small unit in the U.S.A., as for

[1] It would seem " illogical " to say that, for instance, the physical conditions making for quasi-monopoly are " logic " whereas, of course, the endeavour to exploit such conditions by cartels or trusts may be called logic and their disregard as illogical.

[2] Cf. p. 260.

instance in the making of motor cars. There is no hard and fast rule for the size of the most efficient unit, for it depends on the diversity of market conditions. Again, as these conditions change, the ideal or optimum size of the unit may change, and the disappointments which have recently followed some experiments with rationalization—especially in Germany [1]—show how difficult it is to "plan", when the factor of markets and sales cannot be once for ever stabilized. To return to an example we have used before: it would probably be an economic mistake to induce the makers of cotton goods for export to India to use as many designs as the cretonne-makers do, or to induce the latter to effect a greater standardization of patterns.

It is only too natural that in a period when most important industries are developing on the lines of big units the big unit should be considered as a sort of revelation to be applied everywhere. And it looks a little that way, when it is said in the manner of a regret that industry is still predominantly "on a small scale". It is illogical to take this attitude, because such a contention emanates from a comparison of conditions between which there is no basis of comparison. The problem which should be investigated first is how far certain industries, which enjoy the conditions of concentrated large scale markets, have made effective use of these conditions in building up large units and undertakings; and the result of such investigation alone should be taken as the criterion of whether or not a concentration of industrial units of production is justified. But to assert a preponderance of small scale production because the size of the industrial unit has not everywhere reached that in the manufacture of rails or rayon or chemicals or oil must be regarded as a fatal mistake. Statistics used in this manner are not only useless but dangerous.

[1] Cf. Hermann Levy, *Industrial Germany*, pp. 209 ff.

A development of large scale units, which cheapens the supply of standardized goods, may under normal conditions of world economic development even lead to a greater number of small units in many instances, since uniform bulk wants now satisfied at lower costs may have the result of creating more differentiated wants in another sphere of production, which by their very diversity may again favour smaller scale production. Such was the experience in European agriculture when wheat and meat were cheapened through the supply from overseas regions.

It is undeniable, however, that the conclusion to be drawn from the modern tendency of industry in regard to the size of the unit is that wherever concentration of markets and supplies has developed out of revolutionized means of transport leading to integrated mass supply of some kind or other, a concentration of the units of industrial production has become the adequate expression of the optimum of economic efficiency. In view of this the differentiation in the degree attained as regards this concentration of industrial units in this or that country or in this or that branch of manufacture should be regarded as being of secondary importance.

§ 11. *Combination of Units*

(*a*) *Horizontal*

Industrial concentration is only partly represented by a concentration of the technical units of production. The large scale plant, either evolving out of the progress of technical inventions and discoveries which revolutionize the old structure of the industrial unit, or being connected from the beginning with certain industries, as in many of the so-called "new" industries, may not suffice to exploit to the full those opportunities for mass distribution created by the

widening of markets. There are, then, other means than merely those relating to the enlargement of the single technical unit of production by which industrialists may arrive at a greater and more uniform supply of mass demand. A combination of firms, in this case an amalgamation of undertakings producing the same article, may afford opportunities in the direction of effecting economies; they have been frequently enough enumerated under the heading of the advantages of horizontal combination and need not be repeated here in full. One of the most clear-cut enumerations of that kind may be found in the English *Report on Trusts* (1919 and 1924), where it is stated that great possibilities of industrial and commercial improvement are only to be realized by combination in one or other of its several forms, by informal consultation and co-operation, by formal association or by local amalgamation, and the economic advantages accruing from such horizontal combination are scheduled under the heads of Buying (materials, plant, and stores, etc.), Making, Selling, and Knowledge, these headings including in turn such important features of industrial combination as bulk instead of detail purchase, standardization of materials, cheaper credit, standardization of product, specialization of product, use of by-products, transport economies, collective advertising, research work, and many other points of great importance.

Although these features of horizontal industrial combination are in general fully acknowledged, some essential distinctions should be made. When for instance the *Report on Trusts* mentions consultation and co-operation, association and amalgamation as the prototypes of combination, there are here several heterogeneous elements mixed together, and in analysing the concentrative tendencies of modern industry this may lead to misconception. Consultation or co-operation and association have nothing to do

with the creation of bigger and more concentrated units of business.' They merely single out certain functions, which may be common to a great number of firms in the trade, with the object of dealing with them on a common plan. This does not lead to concentration of units, any more than co-operative societies in agriculture lead to it. 'Of course one may take the term "combination" in a wider sense. But this should not have the effect of obscuring features of combination which ought to be distinguished.

Combination of undertakings in an associative form or as an amalgamation may be deliberately directed towards the formation of quasi-monopoly.' This side of the problem of concentration has to be most carefully distinguished from those features of combination directed towards a new and more economic organization of the combined firms than existed with the single ones—although in practice both features may certainly coincide. It may even be difficult to state historically what has been the main impetus behind horizontal combination: has the aim been to eliminate competition and form a monopoly, or has it been to bring about organizatory economies in production, sale, credit, propaganda, by unifying plants and undertakings and doing away with less efficient and redundant works?

There are a great many instances when this latter aim has been stated as the special objective of combination; we may refer to a classic speech made by the late Lord Furness about amalgamation on 29th December, 1908, when he was explaining to the shareholders of Richardson, Westgarth and Co. the logic of amalgamating big concerns: "... by amalgamating several of those big businesses, however, and localizing, as far as practically possible, the manufacture of standard details, this enormous aggregate expenditure could either be greatly reduced or, if spent as freely as at present, would inevitably result

in a far greater profit-earning capacity." Or we may refer to the discussions about the formation in England of a huge combination of undertakings in supplying industrial spirit, which was hailed by the trade papers as resulting in very obvious economic advantages.[1]

It may certainly be true that promoters of any kind of combination of industrial undertakings, whether by mergers, fusions, or amalgamations, are likely to put these organizatory advantages in the forefront of their explanations and official statements, and leave the monopolistic side of it so far as possible undiscussed, and it will also be true that in many cases both aspects of the combining of firms are intermingled. But that should not prevent us from distinguishing them logically. If we take, for instance, one of the most recent examples of a combination of undertakings, the German Stahlverein, we see that the effects as regards the concentration of plant carried through were stupendous. Dr. Vögler, the head of the concern, stated in November, 1933, that the furnace plants had been reduced since 1926 from twenty-three to nine, the Siemens Martin works from twenty to eight, the hoop iron works from seven to three, the works manufacturing bar iron and structural material from seventeen to ten, the tube works from eight to three, and the wire finishing plants from nine to four. In face of such facts it seems astounding that some people should not be satisfied that a "trust" is not merely an instrument for bringing about over-capitalization and a monopolist price policy. The one certainly does not exclude the other. But one must be careful not to overlook the concentrative effects of combination by giving too great attention to the monopoly features.

In fact a combination of undertakings has primarily nothing to do with the forming of a monopoly. But inasmuch as it represents a concentration of independent undertakings it may certainly lead to it, because such

[1] Cf. Hermann Levy, *Monopolies*, pp. 333 ff. and 341.

concentration means a reduction in the number of competitors and thereby a facilitating of common understanding and agreements on the one side, and on the other the rise of a new concentrated prototype of undertaking the competition of which will be more dangerous to new would-be competitors than that of the former single units, a fact which in itself contains a monopolist element. Whether the horizontal combination of units will result in monopoly depends therefore on circumstances which may be very different in different branches of industry. But the outstanding feature of such combination will always be the aim towards a bigger unit of undertaking characterized by a greater concentration of production upon single producing units, an end which has to be realized by doing away with redundant plant.

Such combination seems then to represent an alternative to the enlargement of the technical units of production as discussed in the previous section. In fact it may be considered as an expedient, where such an enlargement is viewed with some apprehension. A large firm in the trade might think it very advisable to enlarge its output by installing machinery or introducing technical methods leading to a greatly increased output. But it may be doubtful whether the increased output could be sold at remunerative prices if the production of a great number of works, though less efficient ones, in the same trade were still to remain and both this production and that of the new machinery were to enhance the total output far beyond the capacity even of widened markets. In such cases the straight path in the direction of the concentration of production upon a few very large single units installing the most up-to-date machinery and methods may be impossible, and a *détour* is chosen by buying up competitors and closing down their plant so far as their organizatory union with the more efficient works seems unrealizable. This has led to

the much debated buying up of " quotas " by the most efficient members of cartels or syndicates, for the purpose of enlarging their own share of production on the most up-to-date basis.

Horizontal combination of undertakings thus leads to industrial concentration in two ways: firstly, by reducing the number of competing firms, and secondly, in many cases, though of course to a varying degree, to a concentration of the units of production within the amalgamation, and therefore logically, though not always in practice, within the respective branch of industry. It is very interesting in this connection to compare the development of horizontal combination in two mining industries of Germany: coal and potash. In both these industries, horizontal combination has been going on since the eighties and nineties. But while the number of coal-mining undertakings has been diminished to such a degree as to warrant our speaking of a genuine " concentration ", in potash the tendency towards concentration exhibited by horizontal combination, quota purchases, and co-ordination of enterprises, has in no way resulted in decided concentration, when the industry is regarded as a whole. This is best proved by the fact that the potash cartel has been suffering for a long time from over-production most harmful even to the best undertakings, in spite of State interference and compulsory cartelization—some assert *because* of compulsory cartelization—and the forming of associations to regulate the number of new potash enterprises, the so-called " Schutzbohrgemeinschaften ".[1] This kind of circumstance, consisting in the possibility of multiplying new undertakings of a relatively small size, may in practice undoubtedly greatly counteract the tendency towards concentration inherent in a movement towards the horizontal combination of undertakings.

Horizontal combination of establishments, then,

[1] Cf. Hermann Levy, *Industrial Germany*, pp. 36–8.

viewed from the angle of industrial organization, has primarily nothing to do with the formation of cartels and trusts, although it may facilitate their formation by the very effect of concentration of undertakings and it may be, where such concentration already exists, as in the case of many of the modern industries, an express object of it. In a very detailed study on *Mergers in Industry* published in 1929 by the National Industrial Conference Board in New York, it was expressly stated that the scale of industrial operation has increased in many cases without a merging of independent concerns[1] and this probably relates to cases where the huge size of the establishment was essentially the outcome of modern technique. On the other hand, the same report emphasized that " in some branches of manufacturing activity the consolidation of enterprises has not always been accompanied by an increase in the scale of operation of the individual establishment ".

Horizontal combination certainly need not necessarily lead in all cases to a concentration of the technical units of production, since its objects may lie merely in the effecting of more economic organization and not in the integration of technical production. But the fact remains that any such combination means a step forward in the concentrative tendency of industry and perhaps in actual concentration. Yet as we see, it would be unwise to draw hard and fast conclusions from the mere fact of horizontal combination. While it is very interesting to note that, in the U.S.A., the movement in the direction of merging businesses has made enormous strides since the War—the number of concerns merged was 292 in 1919 and 678 in 1927, and no less than 4,953 concerns had " disappeared " in those nine years[2]—the effects of such amalgamations in regard to the concentrative structure of the various

[1] Cf. *Mergers in Industry*, New York, 1929, pp. 24–5.
[2] Cf. loc. cit., p. 25, footnote.

branches of industry may have been very different in the different cases, and this applies to the size of the unit of production as well as to that of the commercial undertaking. It should therefore not be overlooked that the effects of horizontal combination are relative.

While any identification of " horizontal combination " with cartels or trusts should be carefully avoided, it may be noted that a cartel may possibly enter the field of organizatory activity originally practised by such a combination. While in general cartels—in contrast to the trust, which may exercise all the functions necessary to secure the economies of combination enumerated before—are merely or mainly occupied with the regulation and control of prices and the limitation and allocation of the production of its members, a desire on the part of the cartel to invade the field of a greater degree of economic, technical, and financial organization of its members may not lie beyond the confines of its aims.

In the classic country of cartels, Germany, such aims have recently been developed, and they have not passed unnoticed. In an official Report of the German Cartel Commission, which sat for a number of years and published its findings in 1929–30, it was stated that after 1925 the problem of rationalization had been " invading the mind of cartels and gave a new and special impulse to the discussion of the relationship of productivity and profits to industrial combination ".[1] The discussion on cartels, within their own sphere as also in relation to the outside world interested in cartel problems, brought to light new features which may possibly lead to further lines of development.

This would mean that cartels would now, for the first time, trespass beyond their original fields of action, consisting in the regulation of prices and production of their members, and step into those lines

[1] Cf. Hermann Levy, *Industrial Germany*, pp. 203 ff.

of activity, hitherto characteristic of the horizontal combination of undertakings, relating to the better organization of production and sale. One among the large numbers of such tasks might, for instance, be the closing down of inefficient or less profitable plants by a general consensus of cartel members, another the introduction of scientific systems of tabulating costs and organizing works accordingly. But while such aims have recently been manifesting themselves to some extent, one retarding factor must be kept in mind: in many cases a cartel (and especially a German cartel) may be bound, for sociological reasons, not to support a movement in favour of greater centralization of works or even of undertakings. Cartels and associations are frequently formed with the explicit idea of saving smaller undertakings or weaker works from cut-throat competition from the side of the most up-to-date and best organized firms. The cartel, once formed, cannot in all cases abandon such principles of "co-operation". In that case associations may become some sort of instrument of protection for the "middle-class" establishments, thus checking the process of concentration instead of accelerating it. This will be the case especially where there is no question of "quota"-purchases. Again, the large and powerful firm which in principle would be unlikely to support such a reactionary policy, being pledged rather to a system of the survival of the fittest, may *in practice* not oppose such a policy, if it is interested in the keeping up of the respective cartelistic organization and adhering to it for reasons of price policy and of keeping small competitors in line. But the mere existence of possibilities likely to defeat the aim of a cartel or syndicate to promote some effective economies of organization outside its primary tasks of regulating prices or output or both, may be evidence that the concentrative tendencies of industrial development are, certainly up to the present

time, better taken care of by horizontal combination than by cartelization. Should cartels and associations, as seems not improbable as regards German industrial affairs, become some sort of representative organization in branches of industry, subjected to principles of central control, guidance, or even "leadership",[1] things may take a somewhat different turn in the future.

§ 12. *Combination of Units*

(*a*) *Vertical*

Another type of combination of undertakings is represented by vertical combination. Here, as with horizontal combination, the general principles underlying the desire on the part of manufacturers to combine into one undertaking different stages of production organically interconnected with each other because they contribute to the manufacture of one and the same final product, have frequently been described and analysed.[2] But it is necessary to make several additional remarks, not so much concerning the general economies effected by such combination as respects the single undertaking—these are quite obvious—but concerning its effects upon the concentrative tendencies in modern industry.

While horizontal combination is intimately linked up with the process of concentration—as in fact this kind of combination is intended to consolidate a large number of single independent undertakings into one, and the final effect upon concentration merely depends upon the fact, whether such combination is followed by a further increase in the number of new undertakings or not—the problem is different

[1] Cf. Hermann Levy, *Industrial Germany*, loc. cit., p. 228.

[2] For one of the latest of such explanations cf. Sargant Florence, loc. cit., p. 22–4 and *passim*.

in the case of vertical combination. Vertical combination does not represent anything like direct concentration of units. It simply means that several independent works or firms which are working in stages of production necessary for the production of a certain final product or article are united into one single establishment. Primarily this process of amalgamation has nothing to do with concentration. But it may have far-reaching consequences reacting very markedly on the development of concentrative tendencies.

As with other topics discussed in this essay it is necessary to ask why the movement towards vertical combination made its first appearance in the eighties and nineties parallel with the development of the great changes in transportation? The movement has been frequently enough described as a more or less ingenious device of manufacturers to reduce their costs of production by eliminating intermediate profits. But why had this not been practised before and why is it not practised everywhere?[1]

There are two reasons. Vertical combination is on the one hand the immediate consequence of the general enlargement of the size of units of production. So long as output per undertaking in the later stages of production is relatively small, there is little possibility of the single establishment's being able to absorb by itself the bulk of the output either of such undertakings as produce raw materials or of such as produce half-finished products. This situation changes in the moment when the finishing or half-finishing works increase in size so as to be able to absorb the whole

[1] Professor Sargant Florence, in his already mentioned essay on the *Logic of Industrial Organization*, pp. 22–3 and *passim*, has not attempted to enter upon the rather complicated question as to the circumstances which have led to vertical combination in some cases and not in others. "The precise degree of integration, so he says, is not invariable," and he alludes to the fact that "some textile firms merely spin *or* merely weave, others spin *and* weave". But such variations should in no way be regarded as accidental, and the causes should be traced why this variety in such organizatory conditions exists.

output of plants producing raw materials, while at the same time the increase in the output per undertaking of the later stages of production makes it desirable to have the certainty of being supplied regularly with the same quantities of the same material.

Of course, there may be cases where almost from the very beginning of modern industrial development a vertical combination may have been closely linked up with the technical structure of production. Thus in the woollen industry, for instance, it is quite common for a single firm to carry on all the processes from the preparation of the raw material to the weaving and frequently the dying and finishing of the cloth. As the woollen manufacturer's success depends very largely upon the skilful composition of his yarn, it is generally thought desirable for him to make it himself. It was stated officially in 1928 that in the woollen branch of the textile industry half the dyeing and finishing was done by the manufacturers. But it is interesting to note that this reason for combining spinning and weaving does not apply to the same extent on the worsted side; since the variety of yarns which the worsted weaver uses is apt to be very great, extending to silk and cotton yarn, he would in any case have to buy part of his yarns.[1] And again it is important to compare with this the situation as regards vertical combination in cotton spinning and weaving. While combined spinning and weaving are certainly not uncommon, there is no decided tendency towards vertical combination such as could be spoken of as a stringent necessity or the lack of which could be taken as being in contrast with the modern tendencies of industrial organization. The most important facts explaining the separation of spinning and weaving in the cotton branch seem to be[2] that owing to the development of a large export trade in yarns, spinning

[1] Cf. *Survey of Textile Industries*, London, 1928, pp. 162–4.
[2] Cf. loc. cit., pp. 22–3.

was to a considerable extent carried on as a final stage of production, so that the spinning plant or undertaking did not require to be balanced by weaving plant in the country. The demand for yarn from the important sewing thread industry and from the hosiery industry tended in the same direction. Further, a weaving mill is liable to use a wider range of yarns than are produced in a single spinning mill, especially in view of the extreme specialization of spinning. It is interesting to note that the very reverse of a development of vertical combination has taken place in parts of this branch of manufacture, as indeed the separation of plant has developed mainly since the introduction of power loom weaving, for the early power looms were mostly run in connection with spinning mills. The divorce, however, of the different stages of production has for reasons given above not resulted here—as in the examples given in a former paragraph—in a strong concentration in the different stages represented by the spinning section on the one hand and the weaving section on the other.

But this development in the structure of the ordinary textile industries—the highly finished lines, the sewing thread industry, and the fine cotton spinners exhibit quite different conditions—is certainly very instructive in, one might say, a negative way. It shows that vertical combination has little or no chance where certain concentrative tendencies of production or distribution are lacking, even when there has been a disintegration in the stages of production as in the woollen industry. When production remains differentiated, though units may increase in size on the average, it will not be very tempting or remunerative to join in an amalgamation with the different establishments of the finishing lines, and again, when the raw material has to be drawn from very different sources and consists of varying qualities the same will apply to the situation of firms which under other

conditions would desire to produce their materials within their own commercial unit.

Quite another case as regards the development of vertical combination is represented by the English iron industry. When the combination of pig-iron furnaces with iron ore mines—and also with the later stages of steel-making, rolling mills, etc.—was a long established fact in the U.S.A. as well as in Germany, the English iron industry was still solidly characterized by the "pure"-works type of industrial unit. So Jeans wrote in 1903 that the majority of works engaged in pig-iron making were pig-iron makers only, and the present author himself found in investigating this problem six years later that vertical combination in the English iron industry was by no means universal, although it was progressing. When, however, Mr. Fitzgerald wrote on the subject about twenty years later conditions had greatly changed and vertical combination had become an established feature.[1] An official report stated in 1927 that during the last ten years the buying up of iron properties by iron and steel manufacturers had been greatly accelerated and that it was estimated that pig-iron makers now controlled their ore supply to the extent of over 70 per cent of the total.[2] It is surprising to discover this result, since it had previously been a more or less general conviction that English iron- and steel-makers were not under any economic urge to have their own ore mines, inasmuch as iron ores were scattered over several districts and there were abundant facilities for cheap importation of foreign ores of excellent qualities. Even the official English Report just mentioned seems somewhat at a loss to find an interpretation of this growth of verticalization, using the phrase "whatever the reason" without putting forward

[1] Cf P. Fitzgerald, *Industrial Combination in England*, London, 1927, pp. 36 ff.

[2] Cf. *Factors in Industrial and Commercial Efficiency*, pt. i, London, 1927, p. 78.

any vigorous explanation. However, it was suggested that the principal reason was " perhaps " to be found in the fact that iron and steel works had attained such a size, through combination or through mere expansion, that they could conveniently take the output of an iron ore mine and eliminate the middlemen's profits.

This is certainly an important point. There can be no doubt that the enlargement of blast furnaces and the increase of their average output by over 30 per cent between 1913 and 1924,[1] had increased the advantages of regular large scale supplies of raw material of even quality, and while formerly it might have been of primary importance to the furnaces to profit from the fluctuations of iron ore prices, balancing home supplies against imported ores, it now became of greater importance to safeguard the supply on a large scale at more or less stable costs. Inasmuch as the costs of transportation of ores from home districts became greater during and after the War[2] the tendency to import foreign ores and to locate the furnaces at places which were most convenient for their importation—that is on the coast—became more pronounced. This meant a greater concentration of production in contrast to former conditions which had favoured the location of pig-iron furnaces near the widely scattered home mining districts. This tendency became so pronounced that it was discussed for some time whether, in view of these advantages, the movement of the blast furnace industry to the coast to meet the supplies of imported ores might not suitably be continued across the sea for the purpose of smelting ores with British coal near the ore fields.[3]

At any rate the whole problem of the English iron ore supply changed with these developments. The furnaces, instead of drawing their supplies from

[1] Cf *Further Factors in Industrial and Commercial Efficiency*, London, 1928, p. 162.
[2] Cf. *Further Factors*, etc., loc. cit., p. 162.
[3] Cf. *Survey of Metal Industries*, loc. cit., p. 13.

various scattered sources, were faced with the growing economic necessity of concentrative supply from far distant centres of production, Spain and Sweden. It is certainly not accidental that the increase in the production of pig-iron made from foreign ores coincided with a movement of the furnaces, and the erection of the technically best equipped furnaces near the coast, while during the same period the control of the pig-iron makers over the ore supplies rose to over 70 per cent of their total needs.[1] There are no figures relating to the actual interconnections of British pig-iron furnaces with foreign, especially Spanish, mining establishments; nevertheless some idea of such vertical combination can be obtained by comparing the figure just mentioned of the proportion of their ore supply obtained by British firms from sources under their own control with the fact that in recent years on the average at least 50 per cent of the pig-iron produced in the United Kingdom was made from foreign ores.

A comparison of the conditions of vertical combination in the English pig-iron trade on the one hand and the American and German pig-iron trade on the other, reveals interesting results. Both in Germany and in the U.S.A. the concentration of iron ore supplies in certain well-defined districts, which were liable to early monopolization, had given a strong impetus towards vertical combination. In the English iron and steel industry, the lack of concentrative forces of the American and German kind had resulted in keeping the units of production in the manufacture of pig-iron as well as of raw steel and rolled products—not to speak of the more highly finished products like tin plate, wire, etc.—on a relatively small scale and this, of course, had also kept down quantitatively the demand for raw material of the single works. This demand could be met most economically by using the scattered ore supplies at home, while the constant

[1] Cf. *Metal Trades*, pp. 117 and 13.

possibility of cheap importation was another safeguard against monopolist exploitation. These circumstances only changed when the unit of production in pig-iron making increased, and the necessity of being supplied with far greater quantities under stable conditions became more urgent, while supplies could only be materially increased by applying to far distant centres of iron ore mining concerning which apprehensions were not unjustified that other, foreign, competitors might try to lay hands on the existing ore deposits.

With these changes the organization of the English iron industry on vertical lines became as urgent as it had become before in other countries, while, of course, the movement was not based upon a mere combination of iron ore and coal with pig-iron furnaces. For it is evident that, if a more economic plan of production really resulted from such combination, the big steel-making firms, having themselves enlarged their units, would sooner or later be tempted to join such combination and to profit from its advantages. Progressive concentration of the furnace industry along with progressive vertical combination with iron ore mining was only one step towards vertical combination of furnaces with the other stages of production, so far as these were linked up with the supply of large concentrated markets, especially export markets, and not primarily dependent upon certain influences making for the localization of finishing branches in special scattered districts. "The whole tendency of recent developments towards concentration of production," so writes an official English Report, "has been to bring about a closer association of blast furnaces and steel works."[1] The modern changes in the structural development of the English iron and steel industry offer a striking example of the circumstances making for vertical combination: enlargement

[1] Cf. *Metal Trades*, loc. cit., p. 13; cf. also pp. 33 and 125–6.

and greater concentration of markets leading to larger units of production, and a growing dependency upon large scale supplies of raw material from concentrative points of production.

But the problem does not end here. Inasmuch as large scale establishments are obliged to invade the most efficient and richest districts of raw material supply, however remote, instead of drawing their supplies from many scattered places selling under competitive conditions, there may always be latent the danger of being ousted from such possibilities by others laying their hands upon the concentrative sources of supply, so far as this supply is monopolizable or at any rate not likely to be increased at constant costs. This is another inducement to seek vertical combination. In contrast to English conditions in the iron and steel industry this inducement has played a decisive role in the development of vertical combination, both in America and in Germany. In both countries the quasi-monopolization of iron ores by the iron-makers made it necessary for the producers in the later stages, either to secure their own ore supplies, or, if it had become too late for this, to seek an amalgamation with the producers of pig-iron and iron ore, thus completing vertical combination on a broad basis.

In the U.S.A. these at first divergent interests led in 1900 to the greatest struggle yet known in modern industrial development, which resulted, however, in a complete co-ordination of interests by the formation of the United States Steel Corporation. While the large firms in the finishing lines had for some time aimed at escaping the Carnegie domination of raw materials and pig-iron by themselves stepping into these lines of production, it had soon become evident that the position of the man, who had first discovered and correctly valued the quasi-monopolist domination over raw materials geographically concentrated in the

Upper Lake districts, was infinitely stronger than that of the firms in the finishing lines, if they were to try now at a much later date to compete with him in this sphere. On the other hand, Carnegie, since he possessed in his vast ore properties the nucleus of all further production, could with much less risk start for himself manufactures in the finishing lines, if his old customers were to refrain from buying from his works. If this battle had been really fought out to a finish, there can hardly be any doubt as to the outcome. But the fight was avoided and the trust formed.[1]

A very similar movement, centred in the monopolistic domination over iron ores and coal, was experienced in Germany, where the movement towards vertical combination had set in between 1895 and 1900. Here, the existence of strong cartels, both in coal and in iron ore, was threatening the so-called " pure " works in the later stages of production. This did not relate only to the iron and steel finishing industry proper. In those days industries, which had no connection with coal, were getting hold of collieries, in order to free themselves from cartelized markets. This, for instance, was the case in the chemical and sugar industries. As regards the iron and steel industry the process of vertical combination was taking hold of the most highly finished stages of production. Engineering works, wire manufacturers, even locomotive factories were acquiring collieries and furnaces.[2] This process of combination was at that time quite sensational, and in England it seemed almost as if it was mainly characteristic of alien conditions.

Although even before 1914 a similar kind of combination had been going on in the British iron and steel industry, this movement reached a decisive stage

[1] Cf. Hermann Levy, *Stahlindustrie d. Vereinigten Staaten*, pp. 322–6, and also E. S. Meade, *Trust Finance*, New York, 1903, pp. 198 and 206.
[2] Cf. Hermann Levy, *Industrial Germany*, pp. 52 ff.

during and after the war. It quickly penetrated into the field of iron and steel industries proper, as can be gathered from the development of such big establishments as Baldwins, Ltd., Dorman Long and Company, Ebbw Vale Steel, Iron and Coal Company, Guest, Keen and Nettlefolds, Pease and Partners, Richard Thomas and Company, the United Steel Companies, Ltd., Harland and Wolff, and others, but it also became predominant within the engineering and shipbuilding industries, as may be seen from a study of the activities of such establishments as Sir W. G. Armstrong Whitworth and Company, John Brown and Company, Ltd., or Cammell Laird and Company, and their interconnections with other companies.[1]

But the development in the English iron industry has certainly been less influenced by monopolist scares than in Germany and America. Here, the existence of strong combinations in coal and iron in the form either of horizontal combination or of cartels, was lacking. In combining mining operations with the later stages of production of the iron and steel industry the idea of securing an ample and regular supply and of avoiding intermediate costs was prevalent, while apprehensions of the possibility of being cut off from any supply at all may have played some role as regards the acquisition of foreign ore properties. Thus the English iron and steel industries did not witness that exciting spectacle of verticalization, which was ensuing in other countries by the formation of huge horizontal combines, and which resulted in the U.S.A. as well as in Germany in the anxiety of the finishers that they might loose their regular supplies of raw materials and semi's and so driving them to become self-sufficient in that respect, while the producers of the primary stages of production sought to evade the fatal consequences of such combination by vertically federating with their own resources

[1] Cf. *Metal Industries*, pp. 125–6 and 273–5.

stages of production hitherto carried on by their customers. In Germany these two distinct movements in the organization of the iron and steel trade have found expression in the terms " Hüttenzechen ", i.e. collieries combining with their production the making of pig-iron, and " Zechenhütten ", i.e. furnace establishments which are in possession of their own resources of raw material.[1]

While in the English iron and steel industry this dual tendency has also existed to some extent,[2] it has never resulted in a regular competitive rush nor has it had the antagonistic features exhibited by the above-mentioned types of colliery furnaces and furnace collieries.

But English examples of similar forces leading from horizontal combination to vertical combination are certainly not lacking. They may be found wherever certain stages of production have become concentrated in a single or a few units or also where controlling associations have gained a hold over them, and inasmuch as the primary stages of production are in general easier to centralize than those of the finishing stages, the movement of the latter extending backwards to the former will probably be more frequent than that of the primary stages expanding over a wide field of specialized high-grade finishing sections. A very typical example is that of the soap-alkali combination. 'While the English soap industry is represented by one of the biggest giant horizontal combinations (the Lever interests), the raw material, so far as it consists of soda ash (the primary alkali) had been concentrated in the two concerns of Brunner Mond and Company and the United Alkali, which were again the outcome of amalgamations on a huge

[1] Cf. Hermann Levy, *Industrial Germany*, p. 53.

[2] Cf. *Metal Trades*, p. 126: ". . . there are a number of vertical combinations which have extended backwards to the iron and steel industry from the nucleus of an undertaking engaged in a later stage of production." Harland and Wolff, Ltd., is given as an example.

scale. The danger of these two integrated groups, of suppliers of raw material on the one hand and finishers on the other, invading one another's fields was certainly latent, but it was averted—as in the case mentioned above of the United States Steel Corporation—by a mutual understanding, which gave to the alkali firm (with some exceptions) the exclusive right to supply soda ash to the Lever concern, while on the other hand Brunner Mond's undertook not to be concerned or interested in any way in the manufacture or sale of soap in any part of the world, again with some exceptions.[1]

These agreements certainly meant " vertical " combination, although amalgamations were avoided. The underlying problems were very similar to those just described in the case of the iron and steel industries. The domination over raw materials by one group of manufacturers made it necessary for the users either to federate their undertakings with their own supplies or to come to terms with their suppliers, while the latter renounced the possibility of entering the later stages of manufacture in return for being privileged in supplying the main group of users.

While it must be kept in mind that vertical combination—either in its primary stage as practised by single big undertakings or in its advanced state of group-combination—will always be preceded by a development of either large units of production or horizontal combination of establishments, that is by a development of concentration of some sort or other, there may be cases where such a development exists in some stages of production, but is lacking in others. It may then be the aim of manufacturers combining in one stage of production to bring about by concerted action combinatory conditions in others. This has been the case in regard to the international bone-glue industry.[2]

[1] Cf. Fitzgerald, loc. cit., pp. 80–1.

[2] Cf. Plummer, loc. cit., pp. 63 ff., and Elemer Hantos, Professor in the University of Budapest, *Mitteleuropäische Kartelle*, Berlin, 1931, pp. 177 ff.

While this industry was more or less concentrated as regards the making of the product itself, the supply of the raw material, the bones, which are a waste product necessarily limited in supply by the volume of consumption of the main products from which they are derived, was widely dispersed. The separate firms using it were competing fiercely in its purchase, especially after the War when the demand for bones exceeded the supply, the U.S.A. having become an important centre of the bone-glue industry and consuming much of the internationally supplied raw material.

Single establishments would hardly have been in a position to regulate the fluctuating conditions of raw material markets. But when in 1926 it became possible to form an international combination of bone-glue makers, to which by now forty-six establishments situated in sixteen nations and comprising about 85–90 per cent of the production of the countries in question are affiliated, the problem of dealing effectively with the competition in the bone markets assumed a different aspect. European makers, under which the British makers are also to be included, decided to discontinue their intensive rivalry not only in the sale of the finished article but also in the supply of the bones. The raw material was now organized by the association, both as regards its collection and as regards its distribution to the members of the association and the holding and disposing of stocks. Horizontal combination in the form of cartelization on the one side, was creating the basis of a commercial centralization of the supply of raw material on the other, though this raw material was in no way a natural monopoly nor geographically or otherwise concentrated.

In contrast to this we may take the conditions in the cotton industry. The problem of combining spinning establishments with the ownership of cotton plantations has been raised, but has never attained

any practical importance. The reasons for this, once given [1] as being "the distance between mills and plantations", the "unwillingness of planters to sell the plantations", and the reluctance of spinners "to raise or advance capital to purchase agricultural enterprises, of which they possessed no technical knowledge" may have been active as arguments against such verticalization, but they can hardly be considered as decisive factors in the problem. Long distance has not been a reason in other branches of industry—the soap combine controls a large part of its own raw materials in Africa—for refraining from vertical combination; the planting of cotton was not restricted or limited and capital has always been abundant if there was a chance of financing industrial establishments in a more profitable way than before. But there was no centralized or concentrated organization among British spinners, no horizontal combination, either of units or in the form of agreements, which could have represented a huge and uniform demand to be satisfied by common purchase or common acquisition of the sources of raw material. And again: while in other cases this supply was restricted, either because it was subjected to a monopoly of land—so-called "natural" monopoly—or because of other scarcity factors, as in the case of the supply of bones, which was not dependent upon separate production but upon the quantities of available by-product, the supply of cotton in many seasons exceeded the normal requirements of international users and it would have been doubtful whether in such times the acquisitions of plantations would not have prevented spinners from taking advantage of very low prices.

It must not be overlooked that the process of disintegration of stages of production which were first of all associated in one undertaking, may also repeat itself in regard to industries of quite up-to-date

[1] Cf. Plummer, loc. cit., pp. 64–6.

organization and may not be limited to such industries as had traditionally possessed, as in the case of the woollen industry, some sort of vertical combination. Thus in the supply of electricity to industrial users the tendency in Germany in recent years has been towards a diminution of newly created privately owned industrial power plants, in favour of an increasing supply of electricity from plants not belonging to the industrial users of electric power. Concerns like the I.G. Farben, Mannesman, the Gutehoffnungshütte, etc., have for some years past been entering into contracts with the Rhenish-Westphalian Electrizitätswerk and are drawing their additional supplies from this huge works instead of enlarging their own power plant.

The same is true of English conditions. It was stated early in 1935 that a well-known steel concern had decided to cease independent generation, a decision which involved an estimated annual increase of about 100 million units in the supply taken from an authorized undertaker, and the view was expressed that if the iron and steel industry were to be reorganized wholesale, the same development in the supply of electricity would probably follow in many cases.[1] This would mean the breaking up of vertical combination in favour of a more pronounced concentration of production in one of its single stages. But, of course, by way of long-term and exclusive contracts between the big users and the big suppliers, vertical combination as practised by the single establishment may be replaced by arrangements on a much bigger scale between concentrated units of supply and users, thus bringing about the same results of verticalization.

Our conclusion must then be the following: horizontal combination may have the tendency to lead to verticalization of units or combines, inasmuch as it enlarges the amount of raw material needed by

[1] Cf. *Economist*, 2nd February, 1935, p. 254.

such combinations, as compared with the former smaller units, *or* it may lead to a combination of the primary stages of production with the later ones, whenever it may seem to the former, when they have been concentrated into larger units, that it is advisable to secure a stable and concentrated sale of their produce. But both cases will be greatly intensified, whenever and wherever it is possible to form monopolies in such stages of production. In such cases a large amount of concentration will follow the process of verticalization, as the examples of the American and German iron and steel industries amply prove. On the other hand, there can be hardly any doubt that, were it not for the special circumstances working against a concentration and monopolization of the British coal-mines, vertical combination in the iron and steel industry would certainly have set in much earlier and taken much more concentrative forms than it has taken up to the present.

Let us not forget that our analysis of combination set out with the idea of discovering its concentrative tendencies. With horizontal combination they are quite evident. With vertical combination the important fact lies in an indirect feature resulting from it. Vertical combination certainly creates a larger commercial unit, as all vertical associations represent a widening of the range of financial and administrative functions of the single establishment. Since probably not all firms in the branch of industry will be able and willing to combine vertically, the process of concentrating production on the most efficient, i.e. vertically combined establishment, will probably be accelerated. Of course, if the process we have mentioned of a sort of " reverse " verticalization ensues, the effect may at least for some time be different. If for instance, as it once seemed not unlikely, undertakings in the oilcake, margarine, etc., trades had gone into soap manufacture in order to combat the increased power

of Lever in that business, the rise of more soap factories would have been the result. But, as we have seen, such kinds of retaliation, if they are ventured at all, generally end in a mutual co-ordination and a still greater concentration, while on the other side it must not be forgotten that the greater profits offered by the formation of vertical combination may be active as an incentive to form a horizontal combination first, thus again indirectly accelerating the process of concentration.

Part IV

FROM CONCENTRATION TO MONOPOLY

§ 13. *Monopoly and Regional Integration*

On the threshold of industrial concentration, which according to our foregoing analysis represents an edifice with many entrances but one central base, there stands monopoly. We do not intend to take a narrow conception of the term monopoly. There have always been intelligent and responsible writers, who have been eager—at the same time probably laying stress on great impartiality—to draw distinctions between monopoly which represents the partial domination of one or several combined undertakings over one section of industry or branches of it on the one hand, and the complete elimination of competition on the other. It may have been a matter of consolation to such writers to find out that in most cases "monopoly" was by no means complete, and the expression of "quasi"-monopoly became a convenient formula. Indeed, if the development were to be viewed in that way, industrial monopolies in our day would be rather the exception. And if here or there monopoly should really have reached a stage of completeness, this term would always remain "relative", as there can hardly exist instances which would not allow of new competition, if the combine were to venture to overstrain its monopolistic powers, however costly this competition might appear. The latest endeavour of an industrial country, like Germany, to evade the domination of imported raw materials, not produced or not cheaply produced at home, by introducing

all kinds of substitutes (" Ersatz ") is another significant example of this.

It is certainly important to note with Mr. Fitzgerald [1] that even such a huge combine as that of Lever Brothers cannot " indefinitely " " extract monopoly profits ", and to find that other English " quasi "-monopolies may be in the same position. But just because this is the case, one should come to the conclusion that the purely monopolist side of these and other combines ought not to engross our attention, and that in fact another aspect, which cannot be fully taken account of by the term " monopoly ", ought to attract our attention in far greater degree.

Whether quasi-monopolies react on prices in this or that way, whether they follow a " sound " or " unsound " policy—which, since it is an entirely subjective valuation can, in fact, never be definitely decided—should be considered as a problem of great importance as regards the practical day-to-day issues arising out of the existence and progress of combines and certainly of very great importance for all measures of public policy relating to cartels and trusts. But from the general point of view of the changes brought about by the development of quasi-monopolies, that is of undertakings or associations which to some extent eliminate competition, this question merely represents a problem of the varying degree of the actual effects following such organizatory changes. In fact, Mrs. Robinson's clever invention of " imperfect competition " seems a much better term for measuring monopolist tendencies than " quasi-monopoly ". The all important fact is, that all forms of organization emerging out of the concentrative tendencies and forces just described, such as large units of production, horizontal combination or vertical combination developing into huge undertakings, create dominant factors in industry and by such domination, extend

[1] Cf. P. Fitzgerald, *Industrial Combination in England*, 1927, pp. 69–70.

their activities as we shall describe later, far beyond the range of formerly separate establishments. To what degree this activity is pursued remains a matter of secondary importance. That it can be and is pursued represents the new problem arising out of the development of concentration. Here, indeed, quantitative changes have meant changes of qualitative character, or better expressed changes of structural importance. In this wider sense the movement towards concentration certainly does contain the most fundamental germs of monopoly, the desire and the ability of manufacturers to dominate in their branch of industry or line of trade in order to increase profits, while formerly their endeavour had mainly been to achieve this end by competing with others.

When the movement towards concentration began—in Germany and the U.S.A. as far back as the early eighties, in England by about the middle of the nineties—the main attention was directed to the purely monopolist side of it. This is why Professor D. H. Macgregor remarks,[1] as already quoted, that "monopolistic purpose is difficult to distinguish from higher organization, and in the last fifty years the latter has had to bear the suspicion of the former in some nations". But the disturbing point was that the movement towards quasi-monopoly was in fact, right up to the present time, never connected up in people's minds with a new structural development of industrial organization, but was merely considered as a sort of vicious device of industrialists, suddenly occurring to the latter, and merely made possible, as Professor Robbins has been repeating just recently, by the existence of natural monopolies, patents, and State aid by way of protection and other means.

This conception probably resulted from the simple fact that "monopoly" was a traditional term of

[1] Cf. D. H. Macgregor, *Enterprise, Purpose, and Profit*, 1934, p. 47.

practical economic life and scientific economic thinking, that especially in England any movement towards monopolization was watched with grave apprehensions and antipathies, that all in all "monopoly", being the much dreaded counterpart of free competition and economic liberalism, had long since become a popular term in the English economic vocabulary, while "concentration", as just analysed in its numerous and complex varieties, was hardly understood and could certainly not be viewed and interpreted so spontaneously as the formation of a combine or a monopolist association. Thus, indeed, the one was taken for the other and both features of modern industrial organization were hopelessly mixed up. As the movement towards monopoly was not deduced from any general laws underlying the modern development of industrial organization, it was quite naturally considered as the outcome either of accidental circumstances or of a misguided policy or of a vicious inclination on the part of the manufacturers—in countries where socialistic ideas were prevalent it was regarded as the logical climax of capitalist exploitation—and if some features of monopolist conditions were similar here and there they were taken as a basis for explaining the whole movement.

What we have been trying to explain in the foregoing paragraphs is the phenomenon of modern concentration in industry. What we have to explain now is the way in which such concentration may lead to monopoly. Two main kinds of concentrative conditions leading to monopoly must be distinguished. The one is geographical or regional concentration of industry, the other is concentration resulting from the structure of the industrial unit. Both have their root, as we have been explaining, in the development of concentrated, uniform mass markets, and these again are the necessary consequence of modern progress in transportation and communication.

1. Wherever a well-defined regional demarcation of some productive activity has arisen the temptation to exploit such integration by monopolist organization has always been latent, and as the modern development of industry has been active in creating dominant centres of raw material production in the world by an entirely new division of labour, "natural monopolies" have become a most important playground for monopolist organization. As we have seen, the process of a disintegration of the stages of production into centres far distant from each other has greatly accentuated the monopolistic structure of natural monopolies, as contrasted with the former state of affairs of decentralization and local supply. Coal, iron ore, copper, zinc, tin, oil, potash, nickel, wood, sulphur, etc., have thus become more or less "successful" examples of such monopolization, where there have been no other circumstances to counteract this tendency. Such "natural" integration offering chances for monopoly may at once react on other industries which are thereby drawn into the circle of monopolizable goods; so, for instance, the concentration and monopolist exploitation of coal in Germany has certainly assisted the concentrative tendencies and monopolization of other industries, such as iron and steel or electric power supply.

2. Geographical integration offering opportunities for monopoly may just as well be found in the finishing stages of production and may be quite unrelated to any "natural" monopoly: (*a*) an integration factor reserving to industries their local or national markets and thereby containing the latent germs of monopolization might ensue from the very nature of the industries themselves. This applies to the so-called sheltered trades, which, however, are more frequent in small crafts and in transport than in big manufactures. Ubiquity of supply—as viewed from an international angle—is shut out here in favour of exclusive supply

by the home producers. It is quite impossible to replace English newspapers by foreign ones, or to draw our daily bread from abroad, and all hotels and restaurants, inns, and many shops enjoy this kind of immunity from foreign competition. This represents some sort of international integration. It means a concentration upon home producers.

Undoubtedly this kind of geographical concentration had existed before the transport revolution of our days set in, but we did not then have a monopolist concentration as, for instance, in the newspaper business, such as is the case with the amalgamations formed by Lord Northcliffe or the Hugenberg concern in Germany. Or to quote another example: the supply of electrical power is commonly reserved, except for some border plants where such borders exist, to the national sphere by the very nature of the industry; this industry was first integrated locally by "districts", especially in Germany, but the largest works have of late greatly increased their radius of distribution. It will have to be seen what are the special circumstances which allow of the monopolist exploitation of this kind of integration, since the mere existence of immunity from competition from outside the integrated region is by no means the exclusive cause of monopolization.

This immunity is not, however, exclusive to industries which offer it by their very nature; it is further present (*b*) in industries which enjoy a monopolist or quasi-monopolist position in international as well as national markets. We have described how the revolution in transport has raised some districts in the civilized parts of the earth to the position of distinctive centres of raw material production, bestowing on them a monopolistic or quasi-monopolistic position when viewed from the angle of international supply. But the same position may arise inside an economic territory within spheres of production which are not

internationally concentrated at all. Thus, for instance, the salt supply in England is reserved exclusively to the English producers by quite natural circumstances, and nowhere in England is competition so well regulated as in the salt trade.[1] We have also mentioned before that the making of cement is in general a domain of home producers. But while such regional monopoly may in some cases be complete, it may just as well be relative or conditional. So it is with cement. There are here practically unlimited sources of raw material, but national and even local protection is afforded by the heavy costs of transport. Monopolist exploitation is possible up to a certain point, as very high prices would certainly do away with the "advantage" of international integration, but this has not prevented the formation of a very strong combination in the English cement industry.

Freight-protection has always played an important role in regard to the geographical integration of heavy industries. It has been one of the circumstances which have allowed the American iron and steel industries west of the Alleghenies to outstrip their original rivals outside the U.S.A. as well as the national iron industry in the Atlantic coast districts.[2] In the case of highly finished goods such conditions of immunity from foreign competition, extending from the domination of home markets to that of international ones, may arise where an industry has by special circumstances attained a dominant position in the supply of its goods. It may be that, as in the case of English whisky, the produce has its special "national" virtues, thereby reserving the home, and to some extent foreign, markets to the producers, a case which may be considered as a matter of taste. But the more numerous cases are found where a highly finished article derives its dominant position either in home, or both

[1] Cf. Fitzgerald, loc. cit., pp. 72 ff.
[2] Cf. Hermann Levy, *Die Stahlindustrie*, pp. 18–47.

in home and foreign markets from its special superiority. While the ordinary textile industries in England are not combined it is well known that the higher quality sections, such as the fine cotton spinning section, the sewing thread industry, and the so-called "finishing trades" consisting of the bleaching, dyeing, and printing of piece goods—the latter being from the technical point of view even more closely related to the chemical than to the textile industries—afford examples of very powerful combines and associations. The great superiority of the products of these branches of English textile manufacture has given them an almost unassailable position in the home, and to some extent in foreign markets. The same applies, to quote one of many instances, to the German chemical and pharmaceutical products, which acquired a special position in international markets because of the distinctive character of German scientific research and its effects upon the quality of the products.

In the same connection we may mention the world-wide importance of patents, which may give a definite monopoly to certain manufacturers or concerns. But one should not overrate this factor of monopolization, as is so frequently done for the reason that it apparently offers a rather easy and simple explanation of the problem. The electric lamp trade, for instance, is a most prominent example of the importance of patents. Yet its history seems to be less a distinctive monopolist domination of a certain patented manufacture than a fight among many sorts of lamp patents, as may be gathered from a monograph on the industry by one of the former directors of the German Osram works, Mr. William Meinhardt.[1] In fact the first step towards combination in the German lamp industry was the formation of a community of interests in regard to the utilization of patents to end cut-throat competition,

[1] Cf. W. Meinhardt, *Entwicklung und Aufbau der Glühlampenindustrie*, Berlin, 1932, pp. 11–15 and *passim*.

and indeed there are very few examples of patents which have bestowed an exclusive domination of the home, or of home and foreign markets upon the single companies possessing them. In fact experience shows that patents in one line of industry seldom remain "alone", that improvements and new inventions undermine the monopolist importance of existing patents, and that it is in many cases not the patent which forms the basis of monopolist concentration of industry but that on the contrary concentration of industrial units is followed by a concentration in the ownership of existing patents and even by the securing of a controlling influence over inventions and discoveries yet to be made.

Again, geographical integration within world production may arise, and has arisen in the past, where industries are based upon a specific kind of workmanship not practised elsewhere. The position of toy-making in Germany affords an example of this; before the War German toys made of wood held almost a monopoly of the foreign markets; this domination was due to the special traditional workmanship in the making of wooden toys exercised by thousands of small families of craftsmen in the Erzgebirge of Saxony and in Thuringia (Sonneberg district). Another example is afforded by the tin plate industry of Wales, which, for the same reason that it had unparalleled experience in production and traditionally skilled workmen, enjoyed for a long time a dominant position in international markets, against which continental and American manufacturers fought in vain, and it still retains this position in the home market. Neither of these industries, however well they illustrate the possibilities of geographical integration in highly finished industries, proved successful as regards industrial combination—the Welsh tin-plate industry, however, has, after a good many sporadic attempts, at last succeeded,[1] and has in 1934 even joined an

[1] Cf. Fitzgerald, pp. 44 ff.

international agreement [1]—since other conditions necessary for successful combination are or were missing.

In general it may be said that conditions of national or international geographical integration and concentration will be rarer in the finishing stages of manufacture than in the extractive industries or in the half-finishing stages, since the latter are as a rule directly or indirectly connected with a domination over factors of production which are limited geographically and in their extent by natural circumstances, that are difficult to overcome—except by the substitution of other materials as in the case of coal and lignite or in that of phosphate and nitrogen—while in the finishing lines a much greater ubiquity prevails. It is therefore in many cases the aim of those finishing industries, which are in themselves not characterized by geographical or regional concentration nor undergoing such a process of concentrative development as is brought about by modern conditions of transport and markets as before described, to profit from the monopolist conditions in the supply of raw material by seeking a close alliance with them. When iron furnaces and steel works, for instance, are connected and united with geographically well-defined areas of iron ore or coal resources they automatically derive all the "monopolist" advantages involved in geographical concentration of supplies. Thus geographical integration of one stage of production may lead in a derivative way to monopolistic conditions in others. In the bleaching trade, for instance, the possession of many valuable water rights in the Lancashire area is understood to constitute an important element of strength in industrial combination.[2]

(*c*) Where conditions of immunity from foreign competition do not exist as in the instances just described, commercial policy may be enlisted to assist national

[1] Cf. Hermann Levy, *Industrial Germany*, pp. 104–5.
[2] Cf. *Survey of Textile Industries*, 1928, p. 28.

integration of industries. We do not identify tariffs with the existence and development of industrial monopolies, for tariffs—even in the U.S.A.—are much older than cartels or trusts, but there should be no doubt that, where they are introduced, they always mean regional, in this case national, integration of industry, at least up to a certain point. The old theory, that tariffs are the " mother of the trusts " (or other forms of industrial combination) must appear absurd, when all those conditions of immunity from foreign competition just mentioned, which may arise outside the sphere of natural geographical monopolies, are taken into account. Even a theory which bases modern monopolist industrial organization " mainly " upon protection must be rejected. Tariffs offer geographical, i.e. here national, integration only for certain fields of industry and it is by no means safe to say that they will even here have the effect of bringing about monopolist organization, since this may depend, as we shall have to show in the next paragraphs, on quite other circumstances, related to the structure of industrial production.

Nevertheless, where tariffs exist they may be taken as one of the conditions supporting monopolization, inasmuch as they create geographical immunity up to a certain point, and the classical economists were certainly right in their conception of the monopolistic effects of trade barriers. The " point ", to which this monopoly may be carried, can be easily defined, so far as the maximum limit is concerned. It is the world-market price plus duty and freight. But below this level a good many variations are possible, inasmuch as some quasi-monopolies may be able to derive the full advantages of the tariff by increasing prices to the uppermost limit, while others may generally or at certain times not be able to do so, this being a consequence of home competition. At any rate tariffs may provide a certain means of arriving at national

integration—and therefore from the international viewpoint, at a greater geographical concentration—in those cases where there is neither a question of international natural monopolies nor of such possibilities relating to the manufacturing business as we described under *b*. This will not apply, except in minor cases, to raw materials, because in most cases these possess immunity from foreign competition either by reason of their geological scarcity or by reason of freight-protection; while in cases where home supplies are supplemented by imports, the problem will generally be of the same nature as where home supplies do not exist at all, free trade in raw materials in both cases being based upon the necessity of supplying industrial users as cheaply as possible.

The direct connection between the imposition of tariffs as a measure favouring the national integration of industry and the exploitation of these conditions by quasi-monopolies will never be elucidated. Tariffs are certainly not imposed to foster monopoly, but to "protect" industries against "unfair" competition, which of course is a very wide and indefinite term. That they constitute one of the conditions of quasi-monopoly by protecting industries from foreign competition on the one hand, and that they represent a strong incentive to combination on the other—because in many cases it is only concerted action of producers in regard to price policy which will enable them to reap the full "benefit" of protection, i.e. by trying to prevent prices from falling, as the consequence of home competition, below the maximum level allowed by the tariff[1]—does not mean that tariffs have been imposed with the special purpose of giving a chance to industrial combination. While in America as well as in Germany manufacturers applying for

[1] Cf. Hermann Levy, *Industrial Germany*, p. 59, table giving a comparison between German and Belgian bar iron prices against the background of the effects of the duty.

protection have been wise enough to refrain from making any statements which might have been interpreted to that effect, it is a curious fact that the one case where the imposition of a tariff has been openly granted in connection with the formation of industrial combination is to be found in England, that is in the country which was up till very recently violently opposed not only to tariffs but to industrial combination as well.

The facts are that in the iron and steel industry the granting of further tariff protection in 1934 was made conditional upon the carrying out of an effective system of reorganization, and there can be hardly any doubt as to the nature of such reorganization, which was to take the form of some kind of industrial combination. In a much discussed interview, which Sir George May had in 1932 with the leaders of the British iron and steel industry, he laid down certain principles governing the relation between the tariff and "reorganization" as envisaged by the Import Duties Advisory Committee of which Sir George was chairman. In the first place he declared that "the main value of the tariff will be to afford the industry the opportunity of putting itself in order on the lines best adapted for this country". The next step was the setting up of a National Committee to work out appropriate schemes. The first Report of this committee clearly showed the latent connection between an integration of home markets and combination. It was stated in this Report that the main objectives of the Committee were: (1) to ensure that all iron and steel requirements shall be met from national sources; (2) to carry through such reorganizations and adjustments as will enable those requirements to be met at the lowest possible costs; and (3) to stop wasteful competition between manufacturers in this country.[1]

[1] Cf. "Reorganization of Iron and Steel" in *The Statist*, 3rd February, 1934, pp. 160–3.

Moreover it was expressly announced that further horizontal grouping and vertical amalgamations would be necessary to arrive at the desired end. The interconnection between the national integration of industry by way of tariffs and its possible exploitation by combination and association, the one being conditional on the other, was never made more plausible than here.

But one may ask what would have happened in the U.S.A. if the argument had been officially put forward that tariffs were necessary to facilitate the formation of combines? This example serves to show to the economist how differently questions of economic policy may be viewed under different conditions and under the influence of changing necessities. In fact the year 1934 witnessed decisive changes in regard to the British iron and steel industry. A "national constitution"—which again is a new term for some sort of concerted organization—came into being and indeed the industry was rewarded by a permanent tariff against foreign competitors. The new British Iron and Steel Federation is by its constitution a national federation of sectional groups, leaving the financial and legal entities to go their own way, but several new combinations of company interests took place while the Federation was being got into working order.[1]

3. Wherever territorial or national integration of industries has developed into definite forms of quasi-monopoly a further strengthening of such a position may arise by mutual arrangements between such integrated groups of manufacturers. This may relate just as well to dominant groups in raw materials with some sort of territorial or national natural monopoly, as also to groups in the half-finished or finishing lines of industry. It simply means the widening of the radius of quasi-monopolist domination either over

[1] Cf. *Manchester Guardian Commercial Annual Review*, 1st February, 1935, p. 8.

whole national territories or over international sales, that is over markets which are subject to the supply from more than one district already organized in a quasi-monopolist way under certain conditions of geographical integration. As regards the sphere of home markets such activity has manifested itself in what is called in German cartel language " Gebiets-schutzabkommen ", that is agreements to safeguard district sales, while in the international sphere it has been effected through international cartels or combinations. These formations have been of late the object of a great deal of discussion and investigation—as by the League of Nations and the International Labour Office—and they have been very exhaustively described by Professor Alfred Plummer, of Oxford.[1] As already stated these international combines are found within all stages of manufacture. They have never been limited to raw material, and they in fact began in steel rails (a finished article) which were at an early date internationally cartelized by the E.R.M.A and I.R.M.A.[2]; and they have been just as prominent in articles like tubes or electric lamps as in metals, fertilizers, bones, or other raw material.

Just as within the national sphere of integration there may be a demarcation between a unitary monopolization of the whole country's production in individual branches of industry and a territorial division of such monopoly—as, for instance, in German coal-mining in the Ruhr and Upper Silesia—in the sphere of international monopolies there may be national " groups " of cartels or combinations federated to each other and forming a quasi-international monopoly. Thus one is justified in speaking of a group of combines connected up with each other in the central European economic sphere and forming a

[1] Cf. Plummer, loc. cit., *passim*.
[2] European Rails Makers' Association and International Railmakers, Association.

network of international combination among certain industries of Germany, Austria, Czechoslovakia, Poland, Hungary, Yugoslavia, and Roumania.[1] Again, what in the national or regional sphere of combination has been called " Gebietsschutzabkommen ", finds its counterpart in the international sphere of industrial combination in what is called " Länderschutz ", that is mutual protection of home markets as well as a distribution of the international supplies which are under common control over allocated national markets. To quote an example, it is a rule of the I.R.M.A. that English railmakers should make no direct deliveries to France or Belgium or Germany.[2] The orders which are secured by rail manufacturers for the supply of international markets have to be reported to a central agency in London, which, through a committee formed for this very purpose, allocates contracts to that " national " group of producers which, according to a specific quota-tabulation, is entitled to receive the contract.[3] Thus we have here another form of geographical integration, which in its effects is not only very similar to the effects of tariffs, but which, as Professor Plummer rightly remarks,[4] gives " to the home producers more complete freedom from actual and threatened foreign competition than protective tariffs ". But the more important side of international cartels in respect of geographical integration and at the same time concentration of single groups of manufacturers upon certain regional markets, lies in the fact that international combination has, in contrast to protection, a bearing on the export activities of industries. A tariff may protect home markets—and, as said before, even this " protection " will have its narrowly defined limits as regards the price policy

[1] Cf. for a full description of these combinations, E. Hantos, loc. cit., pp. 18 ff. and *passim*.
[2] Cf. Hermann Levy, *Industrial Germany*, pp. 93 ff.
[3] Cf. also Plummer, loc. cit., pp. 126 ff.
[4] Cf. Plummer, loc. cit., p. 121.

of combines or associations—but international cartelization is likely to ensure by its system of strict allocation, a much more perfect domination over home markets than any tariff. But what a tariff is never able to attain is the mitigation of foreign competition in " third " markets, that is where protected countries A, B, C, D, etc., are competing with each other in countries which do not produce the commodities in question at all or only in minor quantities.

It is from this, the exporting side, that internationalization of quasi-monopoly derives its paramount importance. While in the home markets it may complete such geographical integration as is bestowed upon manufacturers by protection and even make the latter theoretically unnecessary—as is certainly true in the case of rails or linoleum [1]—in the field of export competition it offers opportunities of control which no tariff could ever bring about. But there is this difference which must be carefully noted: whereas in the national sphere geographical integration as created or made latent by the various circumstances described before—such as natural monopoly, special circumstances relating to a dominant position of national industries and other factors affording immunity from competition, including tariffs—will be a concentrative condition enabling manufacturers to form a monopoly, international combination on the other hand is actually the result of national combination, without which it remains inconceivable. It merely means an extension of national combination to the international sphere by a common and concerted grouping of the single quasi-monopolies in question. International cartels therefore, however interesting their structure might appear from the viewpoint of the huge network of interconnections in modern industrial organization, are not capable of offering any effective " clue " as to the general principles under-

[1] Cf. Hermann Levy, *Industria Germany*, p. 102.

lying the conditions of quasi-monopoly. They are simply an advanced stage of a process of geographical integration beginning "at home" [1] and representing one of the two pillars on which the whole edifice of modern quasi-monopoly is built up. We must now turn to the other of these pillars, and find out, in what way and how far concentration of units, either of technical processes or of businesses, also leads to it.

§ 14. *Monopoly and the Large Unit*

The widely held idea that the "size" of the unit was of paramount importance for the development of monopolist organization of industry is definitely mistaken, so long as this idea is based merely upon the ideology of "large" and "small". These terms as used in this context are really very relative. In agriculture, especially when it is that of one single country which is being considered, things may be different, as indeed the structure of the size of units has changed very little, and a man cultivating, say, 25 acres of land may be just as rightly called a small farmer to-day as in Arthur Young's times, and a tenant holding 1,000 acres may be called a large farmer just as well to-day as in the times of James Caird. But in industry, with the changes that

[1] There may arise exceptional cases where the formation of national cartels or associations may be urged as a means towards facilitating international agreements. In this case—in contrast to what has been explained in regard to the importance of national monopolies for the formation of international ones—the issue might be reversed and the international cartel become the dominant force in creating national industrial co-operation. This is the case as regards the English iron and steel trade, which has been constantly urged from many sides to enter a national combination so as to be enabled to join the continental-European raw steel syndicates. But such cases do not tend to alter our argument. If the English steel industry had been as efficiently combined as that of her continental rivals the quasi-international combination in semi-finished steel would have long since have become a complete European cartel; so the point remains, that international agreements are primarily dependent, either absolutely or in the degree of their strength, upon national combination.

have been going on in industrial structure, it is quite different. A factory which might even have been called "very large" in the seventies, may to-day be called "very small" and considered to be some sort of relic of days long passed. But, if it was once a "large" unit, why did it not then posses those characteristics underlying monopolization which "large" works do in our days possess? One is reminded of the necessity of going into a deeper differentiation of these terms, when one studies even so admirable a book as that of Professor Sargant Florence, of Birmingham University. In dealing with the "Structure of Industry" he declares [1]: "Many a large firm or plant may, by engaging in a great variety of 'lines', produce each in very small amount; and many a small firm by specializing in one or a few processes or lines may produce each line in large amounts. . . . Now modern industrial development is marked off from earlier forms of organization both by large scale production and large scale organization. Its mass production, specialization, and standardization imply large production; its trust and combination movements and its mechanization, large firms and plants.".

It is certainly correct to say that large firms may specialize in a variety of goods, but it is hardly conceivable, except in purely "theoretical" logic, that, if this is done, the quantities produced can really be considered to be "small". It is unlikely that large firms will find any profit in producing anything on a small scale. On the other hand, it is equally out of question that "small" firms will produce "large" quantities in any line. If they do so, why call them "small"? And again: when we read [2] that the annual output of pig-iron per furnace increased from 3,473 tons in 1840 to no less than 9,614 tons in 1873, who can deny that by that date

[1] Cf. Sargant Florence, loc. cit., pp. 1–2.
[2] Cf. *Metal Industries*, loc. cit., p. 7.

up-to-date furnaces were considered to represent "large scale production" and "large plants" as compared with those that had not adopted the new technical methods giving increased output per unit, and this long before "modern industrial development" in Professor Sargant Florence's sense had come about? In fact the mere quantitative meaning of "large" and "small" serves to explain nothing in respect to structural changes of industry. "Large" and "small" may be taken in very different senses—but when we are treating the structural and not the merely technical changes inherent in the further progress of industry, whether an undertaking is large or small must be measured by its proportional output as compared with the total volume of production in the respective line of industry. In fact, when we speak to-day of large firms, we probably have instinctively in mind, not that one firm merely produces more than another—otherwise the only large-plant country would be America!—but that by its quantitative preponderance it supplies a large proportion of the respective demand.

Only in this sense—we may call it the concentrative meaning of "large" plant—does large scale production of to-day differ from "large" scale production of earlier periods of modern industrialism, for the purely quantitative enlargement of the output of single units can never of itself represent structural changes. It is this very fact, which exclusively explains why, in the first three-quarters of the last century, a steady enlargement in the size of units in many branches of industry did not result in anything like a quasi-monopolistic organization of industry.[1] Enlargement of the size

[1] If in a given branch of manufacture the average unit may be taken to represent 1,000 units of manufactured goods in a year, and as the result of technical changes this is raised to 3,000 some time later, the new unit producing 3,000 units is certainly "larger" than the former one producing 1,000. If in the meantime, however, demand has gone up from 500,000 in that country to 1,500,000, the number of manufacturing units need not be reduced. Nothing has been changed as regards the fact that a large

of the unit was merely quantitative, but not concentrative. And this makes indeed a very great difference.

The monopolist element in a concentrative development of larger sized units of production has not yet been fully recognized, for the very reason perhaps that there has been a misconception of what "large" means in this or that instance. But the general tendency towards monopoly, or at least quasi-monopoly, which underlies concentrative tendencies in the development of the industrial unit can hardly be disputed. A large firm as such need not *a priori* contain any element of monopoly, but when concentration of units exists at the same time it certainly does so. "Large" English collieries have not led to anything like a monopolistic organization of coal-mining in England simply because, up to very recent times, there has been no effective concentration going on in the English coal industry. Again in the spinning section of the English cotton industry there has been taking place for many years past a process of enlarging the size of units. This is shown by the rapid increase of joint stock undertakings. In 1884 there were only 120 joint stock spinning undertakings in being. In 1911, however, while the total number of establishments amounted to 657, only 104 were left as private firms. A great increase in the scale of the business unit had taken place during that time.[1] Yet there was not the slightest tendency for the development of larger firms to lead to monopoly.

number of firms, 500 in fact, are satisfying the country's demand. The unit now producing 3,000 will have to be regarded as just as "large" in relation to the general average of units in that industry as the unit producing 1,000 was before regarded in relation to the units of its time. A real structural change only sets in when the size of the unit is growing much faster than demand, so that fewer and fewer units of production are engaged in meeting the demand. The new unit is then not merely quantitatively, but also structurally, larger than before, as it represents a new tendency of concentration and hence a qualitatively different strength of the large undertaking.

[1] Cf. *Textile Industries*, loc. cit., p. 24 and *passim*.

Where, however, the large unit of production has been so much associated with concentrative effects that it controls an important part of the whole production integrated territorially, nationally or internationally, it may be rightly assumed that some quasi-monopolist features are becoming attached to it. This is quite easily understandable when the static point of view is taken. But monopolist domination does not end here. The characteristic of *quasi*-monopolist units is not to constitute their domination for a, so to speak, " momentary " purpose, but to maintain their position—attained in many cases by a laborious and sometimes lengthy process of amalgamation—for a long time in the future. In most cases, where the existence of big units of production does not arise simultaneously with the introduction of the industry, as has been the case with rayon, aniline dyestuffs, nitrogen, electricity, film manufacturing, and other " new " industries—the promoters of horizontal amalgamations or vertical combination leading to bigger units of production will probably have formed some idea of the possible immunity of such concentrative development from new competitors, at any rate in so far as such combinations have been guided, partly or primarily, with the purpose of eliminating competition in order to increase profits.

Where no monopolization of raw materials or the use of exclusive patents or certain monopolist features inherent in the production of the respective works are potent in safeguarding the big concentrative unit from fresh competition one might at first assume that the big concentrated unit as such and of itself would hardly constitute a basis or condition of quasi-monopoly. If profits are raised by the elimination of competition by the huge firm, while raw material is available and there are no patents in the way and neither is production in any way hampered by special circumstances appertaining to the process of

manufacture, the size of the undertaking should not be a hindrance to new equally well-equipped would-be competitors starting business. The question of credit would certainly not matter. It is true that the new undertaking, if it were to assume the proportions of the fittest unit in the branch of industry, i.e. the concentrated unit of production, would require a very "large" financial outlay. But financial capital has never been missing, when adequate profits have been expected. Simply gigantic sums have always been at hand to float big undertakings promising big financial returns, and there is no reason to assume that, in the case of a very large undertaking promising to put up a successful fight against another one in the same branch of industry, the necessary capital would not be found. Mr. Patrick Fitzgerald, who as editor of one of the prominent English financial weeklies, *The Statist*, possesses expert knowledge, is probably right, in declaring [1] that "capital has become much more easily obtainable, the markets in raw material are freer (?), and the requisite business capacity is everywhere more plentiful", than it was thirty years ago. He may also justifiably infer from this that "other things being equal" it is to-day much easier to float a company than it was thirty years ago. But he is mistaken when he deduces from this that small undertakings may be formed more easily to-day than formerly, or that "the expansion of existing firms, however small" has not "been rendered proportionally more difficult". The official English Report on Finance and Industry, or the Macmillan Report as it is generally called, has arrived, as the result of its comprehensive research, at a result quite contradictory to this. The Report states in § 404 [2]: "It has been represented to us that great difficulty is experienced by the smaller and medium-sized

[1] Cf. Fitzgerald, loc. cit., p. 201.
[2] Cf. Committee on Finance and Industry, *Report*, London, 1931, p. 173.

businesses in raising the capital which they may from time to time require, even when the security offered is perfectly sound. To provide adequate machinery for raising long-dated capital in amounts not sufficiently large for public issue, i.e. amounts ranging from small sums up to say £200,000 or more always presents difficulties."

This is indeed the very reverse of what Mr. Fitzgerald theoretically assumes. But even, if he were right, and capital were quite easily available to smaller firms, his argument would by no means be to the point. For what big firms with a quasi-monopolist character have in general to be most afraid of is not the rise of small (and therefore less efficient) competitors, but the rise of competitors of the same size and efficiency as they are themselves. This is what really matters. And in this respect there is no single proof to show that there is any monopolist feature inherent in *capital*, and that capital would be lacking where profit-making capacity could be shown by any concern whatever its size.

What then is the monopolist feature inherent in the large concentrative unit in industry? It is simply this. Every new would-be competitor fit to keep pace with the gigantic creations of concentration means such a very large increase in production that, in order to find a market, there must be either an enormous increase in demand or an immediate drop in prices to a level unprofitable to both the new firm and the monopolists. This is what really constitutes the monopolist element in the large concentrative industrial unit. To compete with firms representing 10, 20, or more per cent of the entire output, under conditions of production and distribution as favourable as those which their enormous organization gives them, requires a certainty of finding a profitable market for a correspondingly large output. Assuming that the necessary materials can be acquired at the same cost, any one

who can raise sufficient capital—and there is no reason why he should not succeed in getting it—can set up an opposition firm producing at approximately the same costs. But if demand rises only slowly he is digging his own grave. If a combination of these big concerns has resulted further in a trust or cartel, the demands on the fresh competitor become even more excessive.[1]

Let us illustrate this by a simple example. If the production of a certain good is taken to be 2,000 units per day in an industry and the average size of the industrial unit is taken as producing five units a day, there would be—all figures taken as averages—400 firms in the trade. If these firms were to form a combine—which in fact would be most unlikely in face of the great number of competitors—it is difficult to see what would be the use of it from a monopolist's point of view. If the combine were to raise prices in a proportion such as would be equivalent to a quasi-diminution of firms (and the respective supply) to 350, demand being assumed unchanged and there being no impediments in the way of new competitors, there is no reason why the more profitable prices should not after some time attract new competitors to the number of ten. The formation of the monopoly would soon lead to sheer disappointment. As we have assumed that the supply of goods was not actually diminished, but that prices were raised as if such diminution had actually taken place, the number of works would have been increased by the monopolist's policy from 400 to 450. The case would be quite different, however, if a movement in the direction of concentration of units should have set in. If we assume that, under the influence of such a movement, eight groups of fifty firms had united into

[1] Cf. Hermann Levy, *Monopolies*, etc., loc. cit., pp. 306 ff. On page 306 there has been a mistake in the translation from the German edition; on line 18 from below the words " is checked " should be replaced by " becomes latent ".

large concerns, now representing a production of 250 units of output each, and that this concentration had afforded considerable technical and economic improvements to the single new concern as compared with the former "small" unit, a monopolist price policy would offer quite different chances than before. A new competitor wishing to match the new concerns in efficiency would be obliged to start on his own with an undertaking producing 250 units. This would mean that he would have to make sure that the market would digest an additional supply of this amount at remunerative prices. If a combine existed among the now concentrated firms it could raise prices in a proportion equivalent to a quasi-diminution of the respective supply down to 1,750 units without creating an effective inducement to new competition, since the new-comer producing 250 units, if he were to start business before this quasi-diminution is reached, would risk depressing the profitable price-level by his production. Or, if in the former case of non-concentration a rise in the demand of only five units of production could, *ceteris paribus*, be met by a new competitor without depressing prices, under conditions of concentration in the case we have just taken there would be required a rise in the demand from 2,000 to 2,250 units per day in order to enable a new competitor to start business without depressing prices to his own detriment as well as to that of the already existing firms. It becomes evident that when concentration of units has set in, a more or less wide margin is left for the exploitation of the quasi-monopolist condition. And it is within that margin that the policy of monopolist concerns, cartels, or trusts may theoretically be worked out, although certainly numerous circumstances and considerations of another kind may in practice be active in preventing combines from exploiting this possibility to its utmost.

Such then is the theoretical "tableau" of the

monopolistic element attached to concentrative units of production wherever they arise. In many cases practice does indeed conform with it. Thus, to quote an example, the rayon industry—at first mainly represented in England by Messrs. Courtaulds & Co.—has been a prototype of an industry organized in large units of production. When some years ago a Dutch concern decided to invade the English field of production and to compete with the dominant concern it could not do this otherwise than by erecting plants of as high an efficiency as those of Courtaulds. In fact the new plants of the British Enka, Ltd., are the largest rayon plants in Great Britain.

But in most cases practice does not follow so closely the theory just propounded and this has led some writers to contend that the theory itself must be wrong or, at any rate, that it is not of much practical value.

It is worth while to follow such argumentation in a little more detail. Thus, again, Mr. Fitzgerald contends in his book [1] that it is " highly probable " that high prices, put up by the combine, may call forth undertakings inferior in organization and technical appliances to the most profitable undertakings. It is necessary to make the following distinctions, before accepting these purely formal deductions :—

1. There is in every industry a sort of " reserve " of firms, generally of less efficient type than the very ablest ones in the trade, which however are able to carry on in prosperous times. Such firms, even if of a comparatively small type, will certainly take advantage of a monopolist price policy of combines and this may in fact be what actually enables it to compete at all. In such cases " higher " prices may lead to an augmentation of small working units, instead of calling forth the formation of new units of

[1] Cf. Fitzgerald, loc. cit., p. 202.

the most efficient and therefore largest type. We have had examples of this in the iron and steel industry of the U.S.A.[1] But even where less efficient plants receive no such stimuli as high prices, put up by combines in times of great prosperity, their position as compared with that of big plants may vary greatly at different times. Thus Mr. J. Sinclair Kerr has pointedly referred to the English iron and steel industry and its "medium-sized units", saying that "in times of poor demand, the lighter burden of standing charges and the greater flexibility of these units are an offset against the lower costs of production of the larger units operating full out".[2]

It is certainly true that special circumstances of prosperity and depression may react on the more or less profitable position of smaller units of production as compared with those units of production which are on the peak of efficiency.[3] But this experience also is not universal. In industries where the large unit excels merely in a greater quantity, uniformity, and standardization of the product, it may not be unlikely that at certain times smaller units will find a profitable line of competition. But the conditions of such competition would be quite different if the leading undertakings possessed in addition other dominant advantages which the small or medium-sized firms could never successfully acquire. This is the case where the preponderance of big undertakings is largely based upon costly outlay on research and laboratory work, as for instance in certain branches of the chemical industries, in the pharmaceutical branches mainly linked up with a large volume of production of chemicals, in the electrical industry, as for instance

[1] Hermann Levy, *Die Stahlindustrie*, loc. cit., pp. 135 and 141–2.

[2] Cf. J. Sinclair Kerr, "Reconstruction and Research in Iron and Steel," *Manchester Guardian Commercial Annual Review*, 4th February, 1935, p. 64.

[3] A case of this is to be found in the American oil industry. Cf. Dr. H. Lufft, *Der Deutsche Oekonomist*, 15, ii, 1935, p. 210.

the electric lamp business, where the continuous introduction of new inventions had much to do with the building up of huge concerns, or as in the manufacture of linoleum, where the ability of large firms to keep a great number of patterns and designs gives decisive advantages to the big firms—to quote a few examples. Here the position of small competitors must be regarded as quite different from what it is in industries like iron and steel or ordinary textiles. But the main point is concerned with the fact that wherever large efficient works exist the profitable existence of smaller competitors or their increase will be only possible, if at all, at certain times and under certain conditions having an abnormal character as measured by the circumstances which have been taken as a basis of economic working by the concentrated units of production. But this leads to another point. Economic conditions and chances of profit may be miscalculated, abnormal conditions not foreseen, and this may lead to a " tableau " of competition in different branches of industry other than that which would result if things had taken their normal and most probable course.

2. The result will be what Professor Sargant Florence in his very clever and thorough study has called " The Illogic of Operation ".[1] We must be very grateful to him that he has at last called attention to the possible discrepancies between theory and facts. In this respect his essay follows, when viewed from a purely academic angle, the admirable method which was first made clear by Professor Max Weber, when he explained that it was necessary in economics to find out an " ideal type " with which the differentiations of actual development must be confronted. In fact, the way in which this very problem of the monopolist importance of the large unit has so far been handled is sufficient to show that it is just as

[1] Cf. Florence, loc. cit., pp. 25 ff. and *passim*.

dangerous for the economist to generalize as it is to use certain particular experiences and "cases" as a proof against a general and theoretically hardly disputable theory. The illogic of operation may play an important role in connection with the problem we are here considering. It may be a fault of huge undertakings. Chances of monopoly may be vastly overrated and so may advantages of consolidation, so that in fact the industrial and commercial unit which is formed may not correspond to the "optimum" size of unit required. The German steel trust, for instance, the Vereingte Stahlwerke, underwent in 1934, only seven years after its formation, a very drastic process of decentralization.[1] The same experience is found in the history of Vickers in England. This great undertaking was, during the post-War period, so impressed by the need for diversifying business, that it acquired, at a cost which increased its capital resources to £28,400,000, many unrelated firms. This idea of the advantages of huge business soon proved a failure and ended in the necessity for writing off capital losses.[2]

The exact limits to the size of the large unit may be miscalculated; this may lead to a more or less reckless buying out of competitors at fancy prices and hence to over-capitalization of the big unit. In such cases the largest unit existing may be one charged with financial burdens which do not accrue to smaller firms, thus placing the latter in a relatively advantageous position, at least so long as the over-capitalization of the huge unit continues. Smaller firms in the iron and steel industry of the U.S.A. have, since the formation of the U.S.A. Steel Corporation, taken advantage of this, and as it took indeed almost a generation to squeeze the "water" out of this trust

[1] Cf. Hermann Levy, *Industrial Germany*, pp. 169 and 207–8.
[2] Cf. Fitzgerald, who also quotes some other examples of the same kind, pp. 191 ff.

the chance for smaller firms was at times not a bad one.[1]

The same sort of miscalculation may arise where concentrative movements have led to cartelization. A cartel may certainly over-estimate its monopolist powers and trespass beyond the borders of a price policy, the limits of which we have outlined just previously. A large increase of new and even small competitors may follow. They may, when other conditions are favourable, take advantage of cartelistic price policy and develop under the shelter of associations without in any way joining them. This has, for instance, been the case in the German potash industry [2] and it was actually predicted by economists such as Professor Liefmann, of Freiburg, who at an early date drew attention to the illogic of potash cartelization and its effects on the increase of competing units. And again, there may be the same kind of mistake in regard to small firms. Not every small undertaking which goes on existing or comes into being in defiance of big units is to be taken as a proof of the logic of multiple competition and the "inefficiency" of large units or combines. Professor Sargant Florence has enumerated a number of circumstances explaining why "large-scale production is physically possible but is in fact not adopted".[3] But what seems perhaps even more astounding than this sort of "stickiness" in regard to conditions which have become irrational or illogical is the fact that even new competitiors of a large undertaking may arise in

[1] Cf. Hermann Levy, *Stahlindustrie*, p. 343: "Overcapitalization hinders the Steel Corporation from assailing competitors having higher costs of production by a policy of depressing prices. The Corporation needs, in order to show profits, just as high prices as the small outsider. But there is one difference: the latter needs high prices before he can cover his high costs of production at all. The Corporation, however, is in need of high prices, because its capitalization implies a yearly net profit, such as can only be attained by a high surplus of prices over the costs of production." This was written in the early days of the trusts. That it has still some significance may be assumed from MacCallum's book of 1931, cf. loc. cit., pp. 181–2.

[2] Cf. Hermann Levy, *Industrial Germany*, pp. 35 ff.

[3] Cf. Sargant Florence, loc. cit., p. 46 and *passim*.

the same fashion. We have had a very forceful example of this in the recent development of the British rayon industry. It is well known that Courtaulds accounts for over 50 per cent of the entire British rayon production and in 1934 it was announced that it had a programme for a 30 per cent increase in capacity. There can be no doubt about the dominant and trust-like position of this concern in the industry. The large profits earned by the trust have, however, induced a good many new-comers to enter the business, and the proportion of its domination has failed to remain on the high level of 90 per cent of the national production as was the case about eight years ago.[1] These new-comers, however, had been of a much smaller type than Courtaulds, since to create an undertaking of the size of Courtaulds would have meant that about the double of the existing sales of Courtaulds would have had to be reached, and the illogic of new competition was not indeed carried so far as that. But even the prosperity of many smaller firms was of a transitory character. Thus the year 1934 saw the passing away of three producing concerns, which had in fact already ceased to produce in 1930, the firms in question being Atlas, Brysilka, and Alliance. This meant that of twenty-four rayon producing companies, that had been promoted during the booms of 1925 and 1928, only eight factories were operating in 1934, four had been closed down, and the machinery of the others had been dismantled. Considering this final result one may conclude that it was probably not good logic to distrust the dominant efficiency of the biggest firm, although onlookers may at times have rejoiced in the fact that the quasi-monopoly of Courtaulds was decreasing.

All these examples go to show that there need not necessarily be a straight path leading from the concentration of units to monopoly. There may be larger

[1] Cf. Fitzgerald, loc. cit., pp. 14–15.

and smaller deviations from that path as the result of illogic on the part of the big firms overrating or overstraining their strength and position on the one side, and the same kind of illogic on the part of the smaller competitors, either carrying on or newly created, on the other. There may be illogic arising out of traditional conservatism and illogic arising out of speculation. Moreover the theoretical example we have given in order to elucidate the monopolist element inherent in large concentrative units of production has amply shown the many divergent possibilities and limitations which remain confronting the realization of monopolization out of concentration. These possibilities, and with them the permanent strength of the quasi-monopoly, will depend upon the development of prosperity and depression, which—especially in our days—can seldom be foreseen, on the changing expansion or contraction of demand, and on the varying sensitivity of demand in different branches of industry in reacting to higher and lower prices. This is an important point in comparing the strength of monopoly in the raw material sphere of production with that in highly finished and luxury goods.

But all in all the monopolist tendency remains, and its very diverse manifestations in practice should never obscure its essential and primary importance in regard to the conditions which make for actual quasi-monopoly. The time should be over when monopoly organization was regarded as an accidental outcome of certain exceptional circumstances, exploited by greedy capitalists and possibly or probably backed by the State, and it should be regarded as of little value to try to prove by individual examples that in fact quasi-monopoly cannot in the long run hold its own. Acknowledging all the deviations mentioned and duly taken into consideration in our foregoing remarks, there can be no doubt that concentration of units with its monopolist tendency reacts on the very

structure of modern industry and has given to it an entirely new " face " which is clearly distinguishable from the development merely of larger works in the days before the revolution in transport and the increase of regional integration.

To deny or minimize the movement towards concentration and its inherent and ever latent tendency towards the formation of quasi-monopoly, to denounce it as an ill-guided and malpractised desire arising out of profit-making selfishness, to advocate a speedy return to the system of competition and denounce State policy as the original and most effective cause of modern industrial combination [1] implies a very imperfect knowledge of the laws and principles which in our days underlie the structure and organization of industry. We have been striving to show that the present structure of industry, leading to quasi-monopoly, is the outcome neither of a great number of different nor of accidental and coincident circumstances but that it is in fact the unavoidable effect of a transport revolution leading to changed conditions of mass supply of goods, this again being followed by a regional (geographical, national, international) integration of production not known before, which, when it coincides with a corresponding integration in the size of units of production, must lead to concentration and thence to quasi-monopoly. This conclusion is not shaken by certain deviations. Neither are these deviations by any means exhausted by what we have indicated as checks arising out of traditional impediments to new industrial organization or out of some illogic in the correct measurement of the practical chances of the new

[1] Cf. for support of such doctrines, L. Robbins, loc. cit., p. 189: " Pools and restriction schemes flourish chiefly where they receive Government support. It would be foolish to pretend that the structure of capitalistic industry is such as continually to achieve the ideal competitive adjustment. But it is fairly clear that the most conspicuous failures to tend in this direction depend in one way or another on authoritarian measures which tend to foster monopoly."

tendencies. The degree, to which the modern development of industrial structure may be successfully carried—here again numerous factors of logic or illogic enter—must also largely depend upon the way in which the concentrative feature of industry is able to find its appropriate formal expression. This brings us to a consideration of the forms of quasi-monopoly.

§ 15. *The Forms of Monopoly—(a) the Legal Side*

When the development of quasi-monopoly first startled economic thought the forms of monopoly were considered to be in the main either dependent upon legal circumstances affecting combination, or to be a matter of choice on the part of promoters or people who were willing to combine in some way or other.

It is certainly true that the legal status has something to do with the forms of monopoly and consequently with the practical strength of it. The law may certainly affect the position of quasi-monopoly in many ways. An anti-monopolist attitude of the law—such as in the U.S.A. the strong upholding of the theory that combination is in " restraint of trade " and therefore illegal or even punishable—may react very markedly on the forms of monopoly. In fact whereas we have no practical proof that legislation has anywhere actually been able to prevent the formation of industrial combination, there is no doubt that it has been active in influencing the shape and framework of combination. In America the unenforceability of " mere " gentlemen's agreements has certainly favoured the amalgamation form of monopoly. The association-type has up to the present time been quite out of the question, and a book recently published by B. S. Kirsh, a member of the New York Bar, on trade associations, shows very well how many difficulties even these more

or less co-operative organizations have had to encounter as the result of being taken for, or accused of being, associations of a price-fixing or otherwise monopolistic character.[1] It was very exceptional, and in the main undoubtedly a consequence of world economic considerations on the part of American legislators, that the Webb Pomerene Bill was passed in 1918 allowing at least some sort of monopolist association in the sphere of export trade. Otherwise in the U.S.A., as Mr. Kirsh expressly confirms, "the underlying basis of foreign combinations to reduce competition and control production is at variance with the fundamental conceptions of the anti-trust enforcement policy; arrangements which are at the very foundation of European rapprochements, such as controlling production and prices, allocating markets and apportioning business, have all been definitely adjudicated by the American courts to be violative of the federal anti-trust laws."

In England the influence of legal conditions, which were also based primarily upon the common law doctrine of monopolies being in restraint of trade, have not had nearly such drastic effects as regards the forms of monopoly. The courts showed, at any rate, great reluctance in the application of the principle during the last century and it may be taken as a positive proof of this that a strong and certainly not very popular combination, like that of the Newcastle Vend, remained unmolested by the law. Courts have tended to recognize the principle of free contract and, generally speaking, to find a contract good, if, having regard to all the circumstances of the case, it appeared reasonable, and if it appeared to be based upon a good and adequate consideration so as to make it a proper and useful contract, even though some of the provisions might technically be in restraint of trade. This

[1] Cf. Benjamin S. Kirsh, *Trade Associations, the Legal Aspects*, New York, 1928, pp. 149, 161, and *passim*.

development in the practical usage of the old English law—so entirely alien to its application in the U.S.A.—has even led an English official Report to the conclusion [1] that the state of the law after the beginning of the nineteenth century was not a factor of direct importance in controlling any tendency to combination in industry and trade, although a power of control was embodied in the common law and doubtless would have been exercised had the movement become so widespread as to arouse general apprehension.

We cannot quite agree with this view. The important question left open seems to be whether, if such " latent power of control " had not existed, the forms as well as the actual development of industrial combination would have been the same as they actually were under the ever " active " danger that under the existing state of the law monopolistic agreements might be made the case for a prosecution or at least nullified. Fitzgerald has very aptly hinted at these circumstances in his book,[2] when he says that it is only in highly concentrated industries that tacit understandings—or gentlemen's agreements—can be really effective; in other industries they have necessarily to give way to formal associations duly constituted and registered, but precarious in that any member can violate his agreement or break away and re-enter into competition whenever he chooses. Mr. Fitzgerald thus quite rightly, and in some contrast to the Report just mentioned, asserts that the defect inherent in all English associations, even in those which are registered, is instability. And the effect on the forms of monopoly has not been lacking. Resort must be had to amalgamation, which, however monopolistic, is perfectly legal. The combine may liquidate the associated firms and take over their

[1] Cf. *Factors in Industrial and Commercial Efficiency*, 1927, p. 73; cf. also for the following passages, Hermann Levy, *Industrial Germany*, pp. 135 ff.
[2] Cf. Fitzgerald, loc. cit., pp. 3–7.

assets, or—as is now more usual—acquire their ordinary capital and allow them to retain a separate legal existence. If this view is correct, and there is no reason to doubt it, the influence of the law against restraint of trade on the "forms" which industrial combination had to choose in England, cannot be contested, even if this influence did not manifest itself in strong anti-monopolistic measures and enactments as in the U.S.A., because manufacturers in England were clever enough to preclude such measures by avoiding the cartel form of combination in favour of the amalgamative type of quasi-monopoly. Again, it may well be argued that had these impediments to the formation of associations in restraint of trade not existed, a good many English "cartels" would probably have been formed before the conditions necessary for concentrative amalgamation, dependent on there being relatively few competitors, were fully realized. At any rate, far from being of no real importance, the English legal conditions as regards monopolies have had a very active and marked influence on the form of industrial combination.

But since the practice of the courts, as mentioned before, was far less stringent in England than in the U.S.A., industrial combination in England has not taken strictly the amalgamation form of organization, the effects of legal conditions having found their expression more in a certain reluctance and in a greater secrecy on the part of those interested in combination than in the actual development of a single prototype form of industrial combination. Thus we find in England terminable associations of a cartel character, and there can be no doubt that their formation was greatly stimulated during the War as more frequent consultation between industry and the Government became a necessity, the latter finding it convenient to deal with an organization rather than with a number of individuals. We find such associations in almost

every important branch of British industry, but of course by no means in all sections of such branches, and there are a great many instances where such a combination has been formed and after some time dissolved, probably to reappear again after some time of competitive struggle.[1] There are many instances of terminable associations which are either still in existence or have been in existence in recent years in iron and steel, metal working, engineering, electrical manufacturing, textiles, chemicals, and in miscellaneous industries, such as china clay, pottery, matches, vinegar production, etc., and besides it must not be forgotten that many an English concern of a trust-like character is federated in a more or less rigid manner to international cartels or monopolist undertakings. This may either take the form of a regular cartel agreement with quota allocation, as is the case with international steel rail agreement in which Great Britain is a partner,[2] or with the international agreement about electric lamps, or there may be—at first—agreements between dominant British and foreign concerns of a more general character, as for instance between Imperial Chemical Industries, Ltd., and foreign dye-stuffs manufacturers, of which details are not yet known.

At all events a great variety of cartelistic types of combine has been evolved in Great Britain, ranging from associations aiming merely at a limitation of competition by fixing minimum prices and instituting a pooling system in some form or other, to associations fixing quotas of production or allocating orders. The latter type exists, for instance, in certain industries, where contracts are awarded upon tenders, the

[1] Cf. for the following passages concerning special cases, Levy, *Monopolies, Cartels, and Trusts*, 2nd ed., 1927, *passim*; Fitzgerald, loc. cit., *passim*, *Factors in Industrial and Commercial Efficiency*, 1927, pp. 78 ff., and Plummer, 1934, *passim*, the latter with special regard to the international ramifications of British cartels and trusts.

[2] Cf. § 3 of the International Steel Agreement of 30th September, 1926.

Association arranging which firm is to have the order and instructing other firms to tender high. Then there is another type of cartelization—to be found for instance in the British fertilizer industry (Sulphate Ammonia Federation, Nitrate Producer's Association) —which is represented by a company which acts as a selling agency for all its members and which may also control their output by allocation. This is probably the nearest approach of an English monopolist association to the German cartel type. But all in all these different types of association are found in England side by side with the genuine development of trustification. Trusts or trust-like concerns are found in the chemical industry (especially represented by the chemical " Super-Trust ", the Imperial Chemical Industries, in various of its lines, such as dyes, alkali, and explosives), in the glass bottle, the seed-crushing, the soap, the tobacco, the distiller's, the yeast, the tyre industry (in which the Dunlop Rubber Company has at times been responsible for 90 per cent of the national production), the wall-paper industry, and also in some lines of the textile industry, especially in thread manufacture, where J. & P. Coats alone is believed to control 80 per cent of the trade in household thread and a very considerable proportion of the thread used for manufacturing and other purposes. These examples will suffice to show that the forms of quasi-monopoly in England are by no means restricted to either the cartel or the trust type and that, while the legal side of the problem should not be overlooked, it can hardly be argued, in view of the great diversity of forms actually to be found among English industrial combinations, that they can have had anything like a paramount influence in framing or dictating these forms.

In regard to the legal side of the forms of the quasi-monopoly England might be said to stand between the U.S.A., with their strict upholding of anti-monopoly legal doctrines, and Germany, which has

never regarded any monopolist associations as being of themselves illegal or actionable. There was, up to not so very long ago, absolute freedom to combine and to enter agreements of a decidedly monopolist character and the German State has even gone a step further in not only permitting and encouraging cartelization but also in promoting and supporting it at an early date by compulsory measures as in coal or potash.[1] But on the other hand policy in regard to the actual effects of combination—not in regard to their forms or types—has been of a very fluctuating character. While in times of unstable price tendencies and the growth of apprehensions on the part of consumers the attitude of the German Governments has been rather in favour of legally diminishing the power of cartels (1923 and 1929–1930) and allowing greater freedom to withdraw from "tying" agreements, thus somewhat approaching the English legal position, the reverse has been the case whenever industrial combination was to be considered from the point of view of industrial co-ordination and co-operation. "There is a wide range of possibilities between the combating of such monopolist actions of cartels as are to be considered as misuses of their power, and a simultaneous policy of toleration and even monopoly organization by the State," writes Dr. Arnold Wolfers, who has made a study of the different tendencies ruling the legal aspects of the problem in Germany.[2]

While Germany has on the one hand been the country which has allowed the greatest freedom in regard to combinations of manufacturers and is therefore perhaps to be called *the* country of cartels, especially when compared with the U.S.A., there has of late been a tendency towards a much more pronounced amalgamation and trustification in industry.

[1] Cf. for details Hermann Levy, *Industrial Germany*, pp. 135 ff., 161 ff., and *passim*.

[2] Cf. Arnold Wolfers, *Das Kartellproblem im Lichte der deutschen Kartell-Literatur*, Munich, 1931, p. 153.

The statement of an English Report [1] that the " recent swing of German industry in the direction of the trust form is not wholly unrelated to the relative freedom of action which the trust enjoys in comparison with the cartel " may certainly contain some truth, although it is hardly possibly to verify the existence of such motives in special cases. On the other hand it would be incorrect to draw conclusions from the mere fact of the advance of amalgamation and concentration in German industry as to the paramount legal causes of it. The industrial amalgamation movement in Germany, and especially in cartelized groups of industry, is far older than the recent, more vigilant, and more detailed cartel legislation. If a desire for greater freedom of action—apart from much more important commercial and technical considerations—has undoubtedly strengthened this tendency, it has certainly been not so much the fear of being hampered by cartel legislation as that of being disturbed by the divergent interests of many small and medium-sized firms adhering to the cartel or syndicate.[2]

It is indeed very difficult to balance the influence of legal conditions and actions against that of the economic forces shaping the forms of monopolist organization. There can be no doubt that American legislation has prevented the formation of anything like monopolist agreements. But it seems doubtful whether American industry would have developed large spheres of cartelistic domination rather than trustification, even if the State had allowed and legalized cartels or other agreements of a monopolist character. The whole tendency towards industrial concentration in the U.S.A. would in all probability have led to amalgamation rather than to association, even if there had been no legislation preventing cartels in existence. It must be taken into account that a

[1] Cf. *Factors in Industrial and Commercial Efficiency*, p. 101.
[2] Cf. Hermann Levy, *Industrial Germany*, pp. 100–1 and *passim*.

great number of American industries, which have gone furthest in trustification, have been "new" industries, which from their very beginning were bound to take the form of large units of a concentrative character, so that no choice—such as had presented itself in many of the old European industries—was left between cartelization and trustification, the trust being the perfectly unavoidable effect of units of production supplying a large percentage of the demand and offering all the conveniences of trust-like fusion.[1]

Considering all these facts one is led to the conclusion that legal conditions, though being of some influence on the development of the forms of quasi-monopolist organization, are by no means primarily or essentially destined to give to quasi-monopoly its final shape. There are other influences at work.

§ 16. *The Forms of Monopoly—(b) Cartels versus Trusts*

The problem of the form that a quasi-monopoly takes, especially as to whether it is of the trust type (arising out of a merger, fusion, or amalgamation of firms) on the one side and the cartel type (merely constituting an agreement about special features of production or sale) on the other, has been widely held to be more or less an issue of choice on the part of manufacturers and promoters. The "advantages"

[1] Cf. some interesting remarks in *Mergers in Industry*, loc. cit., p. 170: "The consolidation or merger of industrial enterprises is in part a reflection of the trend towards an increasing scale of manufacturing organization and output which has characterized American industrial development during the past fifty years, and in part also a reflection of other influences in industrial organization. The growth in the size of the manufacturing units and in the scale of industrial operation has taken place fundamentally in response to the expansion of markets beyond local limits through improved facilities of transportation and communication, and as a result of technical improvements in manufacture through the wider use of machinery and power. The development of corporate enterprise and the widening market for corporate securities has affected not only the scale of operation but also the relationships and forms of organization of industrial enterprises."

accruing from the one form or the other seemed to be the issue which really mattered. To some economists the trust seemed to be the only really effective form of monopoly, since it did away with the intrinsic divergences remaining within cartels or associations and also constituted a much more stable and permanent form of quasi-monopoly, while the association was a terminable agreement or subject to the liberty of withdrawal of members according to their changing mood, especially in countries where the adherence to such an agreement was not made enforcable by law. On the other hand cartels or associations were frequently described as being the much "stronger" forms of quasi-monopoly, as they were meant to embrace the whole of a branch of industry and, if properly organized and unmolested by the law, did not leave room for outside competition, which the trust would in most cases have to fear.

Neither view seems to represent the whole truth. There may indeed be "trusts", which after some time of their existence will encounter a good deal of new competition, which, as we said before, may be the outcome of several circumstances, such as overstrained price policy, booming conditions in industry, etc., as has recently been the case with Courtaulds or as was the case some time ago with the U.S.A. Steel Corporation. A cartel organization or even looser agreements binding the old and the new partners together will in such cases appear to be the most effective way of escape from a renewal of competitive struggles. This was, for instance, the case with the quasi-monopoly in the thread business. When J. & P. Coats formed their powerful combination they were able to effect it by absorbing five only of their most important rivals; by doing this the combine acquired the vast bulk of the trade. But the immediate result was the separate combination of twenty outside firms —forming the English Sewing Cotton Company—and

a rather intensive war between the two interests would have become inevitable had not an " agreement " been concluded to the effect that the two combinations would not interfere " with each other's business ". Another instance is that of the former English salt trust, the Salt Union, which had been formed in 1887 by merging no less than sixty-four firms controlling 90 per cent of the national output. New competition soon arose, as the trust had greatly overestimated the chances of " natural " monopoly. The trust tried an agreement with its principal competitors in 1899, but this, however, failed to restore prosperity to the trust, and when in 1912 a new organization was established, supported by 84 per cent of the trade, it broke down within a year because outsiders continued to erect new pans and refused to become members unless they were granted an increased proportion of the trade. At last a cartel under the name of the Salt Manufacturers Association was formed in 1915 by the Cheshire salt producers, in which the Salt Union appeared as the first partner, while the Union also became the chief shareholder in a syndicate controlling the sales of the industry in Northumberland, Durham, and Yorkshire, and called the North-Eastern Salt Co.[1] In such cases, when viewed from the monopolist's viewpoint, the trust-type of organization would hardly seem to be the " strongest " form of quasi-monopoly.

But there have been other experiences. The history of modern industrial combination is just as full of cases of " weak " cartels and monopolist organizations seeking amalgamation as a necessary safeguard for their existence. The circumstances which underlie such a development in the form of monopoly can be illustrated by the case of the English soap business. It would hardly have been possible to form a monopoly in English soap on the basis of agreements between manufacturers, if it had been based upon the form of

[1] Cf. Fitzgerald, loc. cit., pp. 72–5.

agreements alone. If Mr. Fitzgerald asserts that the soap combine represents " a convincing proof that a mere multiplicity of producers does not itself constitute an insuperable obstacle to the creation of a monopoly ",[1] this is not quite correct. The conclusion to be drawn from the interesting history of soap combination in England is simply this: that a multiplicity of firms would certainly not have led to combination, if mere cartelization had been aimed at. It was, however, recognized at an early date by Lever Bros. that a concentration of firms by amalgamation would result in creating an undertaking of such a dominant character that there would be no doubt that smaller competitors would be in an awkward position. Thus there was formed a horizontal combination of undertakings, a development which had reached its peak as early as 1911. There was then one important competitor left, the firm of Gossage's and Crosfield's, which was, however, purchased by Brunner Mond in 1911. During the war the concentrative policy of Levers was strengthened. Thirty additional undertakings were taken over, and, what was perhaps more important, control was obtained, as already mentioned in a former paragraph, over the soap interests of Brunner Mond, which firm thereupon withdrew from the trade. Yet the British soap trust and the syndicate—the United Kingdom Soap Makers Association, which was formed in 1914—of which, along with a large number of British soap manufacturers, it is a member, can by no means be taken as a proof that there has been strong combination in spite of there being a great number of competitors. The history of the Lever interests amply shows that there was room for a definite development of concentration, which has led to the result that Levers are to-day producing about 75 per cent of the soap made in this country, while again they produced about

[1] Cf. Fitzgerald, loc. cit., p. 59.

90 per cent of the production of the Association.[1] Where there is a chance that, by buying out even a large number of firms, a new unit of dominant efficiency may be created, the multiplicity does indeed not count for very much—not because it is simply a matter of promoting genius in bringing the firms together, but because concentration promises success by way of greater efficiency.

The soap industry in this country is indeed a brilliant example of the possible economic advantages of horizontal combination. And again, this position has been strengthened, as we have described before, by vertical combination. The company owns plantations and is interested, *inter alia*, in shipping, whaling, seed crushing, oil refining, and fisheries, and in the production of the by-products of soap as well. While it may be true, as Mr. Fitzgerald suggests, that the economies which are theoretically possible as the result of the formation of the giant combine have not been fully realized, and while it may be also true that an overstraining of its monopolist position would give rise to new independent producers, there can be not the slightest doubt that the company's position is dominant enough to deter any reckless new competition. The official Report, quoted by Mr. Fitzgerald himself, points to this when it states that: "We find it difficult to believe that an independent manufacturer could, for any considerable period, prevent the definite and considered wishes of the Lever combine from being put into effect," [2] and another official Report declares, "The soap industry provides consequently another example of a price-fixing association dominated by one huge organization." [3] This development and situation as regards "multiplicity" differs widely from that which

[1] Cf. *Factors*, etc., loc. cit., p. 86.
[2] Cf. Fitzgerald, loc. cit., p. 62.
[3] Cf. *Factors*, etc., p. 86.

is commonly meant, when mention is made of the "great number" of firms, that is a great number of competitors of about equal strength, and of the possibility of new profitable competition on the basis of the existing size of industrial units. In such cases, where the concentration of many units by horizontal combination cannot be made profitable and where verticalization neither has much chance, multiplicity of firms will indeed be an obstacle to quasi-monopoly. But both cases should be clearly distinguished.

An example of a case where the multiplicity of firms and the facility of multiplying new undertakings was a great check or at least an important hindrance to effective cartelization (not to speak of trustification) is afforded by the early history of the German potash industry. On the one side the geographical concentration of the potash resources, the absence of any foreign competition, and the at first small number of undertakings seemed to favour cartelization, but on the other side the large profits of the existing undertakings were followed by what was called a "potash rush", almost reminiscent of a gold rush, and resulting in an increase of undertakings from fifty in 1908 to 207 in 1916. It was not merely that, in face of this multitude of firms, a cartel was in a hopeless condition, but that what was more competition had been indirectly increased under its shelter, when the State backed it up after 1910 by compulsory measures. As horizontal amalgamation of potash mines—in contrast to the above described conditions in the English soap industry—seemed not to promise any decisive advantages in the early stages of the development of this industry and as the concentrating effect of verticalization was also lacking, combination would not have shown any permanent results here, if the State had not bolstered up the cartel by its compulsory legislation. This legislation was renewed and extended in 1921 by a law (Sillegungsverordnung) enforcing to

some extent the closing down of inefficient plant. In fact it is only progressive concentration within the limits of the cartel organization that has in the last few years made the quasi-monopolist position of the potash trade more effective. There has been much elimination of redundant plant, partly as a result of the law mentioned above, partly through amalgamations financed and promoted by capitalists and bankers specializing in that line of industrial activity. There has, moreover, been substantial technical progress, especially in the field of fuel economy, leading to increased rationalization and thence to an enlargement of units. Some sort of verticalization has also developed in the potash industry through its attempt to become more closely federated to the chemical side of the business, called Kalichemie. All these circumstances have led to a concentration movement within the German potash cartel. What neither the syndicate nor governmental action had been able to effect has been accomplished by the dire necessity of economic development during the last few years. It is perhaps too early yet to speak of trustification in the German potash industry, but a movement towards it can certainly be discerned.[1] The quota of the leading concern—the " Wintershall-Deutsche-Kalinindustrie "—has already reached the percentage of 41 in the syndicate.

It may be interesting to note that the history of English coal-mining represents an example very similar to that of the German potash syndicate, as once the only effective and comprehensive coal cartel England has yet known, the Newcastle Limitation of Vends, was undermined and finally brought to an end by the fact that too great a number of participants were taken into the combine thus reducing the allocations of all mines concerned to the detriment of the most efficient undertakings. This was to

[1] Cf. Hermann Levy, *Industrial Germany*, pp. 36–7, for further details.

prove a fatal blow to this cartel so soon as, following on the competition of other English coal districts in the markets the Vend had previously been exclusively supplying, a pressure on prices had to be met primarily by the most efficient collieries.[1]

Statements asserting that a multiplicity of undertakings does not " of itself " constitute an insuperable obstacle to combination have thus to be reformulated. A great deal depends on the economic position of multiple units, that is whether they are the expression of conditions which lead to an easy multiplication of the number of undertakings, especially when prices and profits are rising, or whether they admit of the development of the concentrative forces before described. It is this factor also which determines whether the one or the other form of quasi-monopoly seems to be most efficient from the point of view of a combination. We have seen that an " absolute " dictum is apparently impossible. There are industries in which cartels or syndicates appear to be the absolute necessity for the final solution of quasi-monopoly. There are others in which the weakness of cartels becomes patent, and trustification emerges as the real stronghold of successful and permanent combination. From a scientific angle it is by no means sufficient to state, by giving examples, that the one or the other " may be " the case. The question cartels versus trusts or trusts versus cartels is by no means decided by accidental considerations.

So far as present practice is concerned the following cases should be carefully distinguished :—

1. In the " new " industries concentration of units generally takes a definite form from the beginning. This may be attributed to the fact that the development of new industries—especially when bound up with revolutionary inventions and discoveries, or new

[1] Cf. for a full description of these circumstances, Hermann Levy, *Monopolies, Cartels, and Trusts*, 2nd ed., 1927, pp. 160–6.

processes—is based upon the presence of a vastly increased concentrated demand which will be most profitably served by, and will indeed necessitate, huge plants. Here there are chances for trustification from the beginning; industry in the U.S.A. is an example of it; rayon, electricity, oil, certain sections of the chemical industry are examples in the national and international sphere. Here the main function of the cartel is to fortify the position and complete the key position of the big undertaking or undertakings of trust-like character.

2. The situation is different in industries where by tradition there is a large number of single units and in the beginning no concentration. Here two cases may be again distinguished:—

(*a*) Tendencies towards concentration, the essence of which we have described at length in previous sections, may be latent and may then be exploited by a cartel or association. In this case the cartel may be considered to be anticipating a trust-like evolution. Even at the stage when the concentrative movement has not yet gone so far as to leave a few dominant partners in industry, an agreement about certain of the ends aimed at by final consolidation and amalgamation, such as the control of prices and allocation of production in order to reduce competition, may be realized. The cartel is then to be regarded as the forerunner, or as a preliminary stage of, trustification. It must also be kept in mind that the cartel or association may push forward the tendency towards cartelization by enabling firms to buy up the quotas of weaker competitors and transfer their allocation to more efficient works.

(*b*) But such cartelistic development may be misdirected. There may be just as much "illogic" here as was described before in regard to the size of single units. Cartels may find after some time

that possibilities in regard to new competition have been underrated, as we have just described in the case of the German potash industry. New competitors of not at all dominant size may arise outside the association and benefit by its policy. In such cases trustification within the cartel or association seems the only possible way of ensuring the continued existence of quasi-monopoly. If the quasi-monopolist framework of regional integration, as described in former paragraphs, exists and it is merely the chance of new competition which is preventing its exploitation, the strongest partners in the cartel or association will in all probability endeavour to form a nucleus of horizontal or even vertical combination, leading to strong consolidations within the association and making new competition increasingly risky. In these cases, which have of late been very frequent, the trust is proving superior to cartels from a monopolist's point of view. In the German coal-mining industry this has at times resulted in some *désintéressement* of the big concentrated firms in the syndicate; the giant firms now controlling coal-mines, as well as furnaces and steel works, ceased to be genuinely interested in a cartel, which they had at one time regarded as an instrument for fighting competition.[1] But on the other hand experience shows that in most cases big concerns, even those controlling a large share of the trade in their industry, are very anxious to adhere to existing cartels or associations, since in fact the joint adoption of both forms of monopolist organization ensures the completeness of the total monopoly or quasi-monopoly. The German steel trust, for instance, the Stahlverein, is a very active member of all syndicates in its line of business, from coal to pig-iron, and from semi's to structural steel, hoop-iron, thick plates, bar-iron, tubes, and

[1] Cf. R. Liefmann, *Kartelle, Konzerne, und Trusts*, 1930, p. 90, and Hermann Levy, *Industrial Germany*, p. 28.

wire rods.[1] In these cases the question, however, remains as to what influence the trust-like firm within the cartel will have upon its policy. This certainly depends upon the strength the trust-like concern has gained in industry. In the English salt trade and in the English soap industry, for instance, we have an example of a trust dominating the association.[2]

Considering all this, one is led to the conclusion that the forms of quasi-monopoly have been the outcome neither of accidental aims of manufacturers nor of any alternative choice in preferring either cartels or trusts. In this sense the issue "cartels versus trusts" does not exist. The forms industrial monopoly usually take seem to be strictly dependent upon certain economic conditions evolving out of the concentrative tendencies previously analysed. Where these conditions or tendencies towards concentration are missing attempts to form a quasi-monopoly of any form will fail, where they do exist in some measure a cartel or syndicate may try to anticipate coming developments in the direction of a closer concentration, where concentration is fully developed the trust form of quasi-monopoly will evolve quite automatically, but will nevertheless seek increased strength and protection against new or old competitors, arising out of what we have called the "reserve", by joining existing associations. It thus follows that while the cartel may prove necessary for the ultimate success of amalgamated companies, amalgamation is the best safeguard for a stable working of cartels.[3]

[1] Cf. Hermann Levy, *Industrial Germany*, pp. 54–5.
[2] Cf. *Factors*, etc., pp. 77 and 86.
[3] Cf. Hermann Levy, "Industrial Combination in England," *The Statist*, 4th August, 1934, pp. 162–3.

§ 17. *The Case of Coal, Cotton, and Steel*

Such facts should not be overlooked when considering certain aspects of the question in this country at the present time. While not so very long ago concentrative organization had to bear, to use Professor Macgregor's apt phrase, the " suspicion " of monopoly, it happens to-day that monopolist forms of organization are most keenly sought in order to ensure concentration. Such an attitude appears to be the outcome of a disposition of economic thought which takes the forms of quasi-monopoly as a sort of pattern which may be applied wherever its usefulness seems apparent. In this case too much attention is given to the " form ", and too little to the essence of it. We have been trying to show that the " form " of quasi-monopoly is implicit in the necessities and diversities of concentration and that only in certain cases is it likely that the form itself will react on the process and progress of concentration. But one should not assume that, because a very large number of national industries have now been organized in the form of cartels and trusts or trusts within cartelization, cartels and trusts are simply copies made to order from existing models. There is, indeed, a considerable difference between the formation of a football association or a co-operative society and that of a cartel or trust.

These observations are applicable especially in the case of three of the staple English industries, which still lack concentrative organization: coal, iron and steel, and cotton. The various attempts made in recent years to organize these industries on what some years ago would simply have been called a " monopolistic basis ", if it had been exclusively propagated by the manufacturers themselves and without any official support, go to prove how difficult it is to effect cartelization where the intrinsic economic

conditions of concentration are lacking. In the English coal industry the Coal Mines Act, 1930, Part I, and the Coal Mines Reorganization Commission set up under Part II of the Act were designed to bring about a final integration and centralization of the English coal industry. Yet, although in 1934 the control of the industry was further increased by the separation of inland and export quotas and an attempt to co-ordinate minimum prices as from 1st January, 1935, reorganization has as yet made little headway. Early in 1935 it was stated by trade papers that " none of the schemes of amalgamation prepared by the Coal Mines Reorganization Commission in 1934 has yet been put into operation ".[1] But while the decisive step towards final centralization by some form of quasi-monopoly was still lacking, as the check to such development—the great number of mines and their distribution over many separate districts, or in other words the lack of national geographical integration on the one hand, and the great multiplicity of undertakings on the other—remained unremoved, there was some progress observable in respect to at least partial concentration. A merger between the Powell Duffryn Company and Welsh Associated Collieries was announced, by which, it was said, an annual output capacity of 20 millions of tons was concentrated in seventy-five collieries representing the largest coal combine in Europe.

In fact the case of this South Wales merger is highly instructive, for it was just the special conditions in the Welsh coal industry which from a very early date—indeed as early as 1870—made it one of the most hopeful fields of concentrative organization[2] in the form of huge amalgamations. But while it was

[1] Cf. *Economist*, 16th February, 1935, No. 4773, p. 41.

[2] Cf. Levy, *Monopolies, Cartels, and Trusts*, 1927, pp. 184–6; indeed, it was the possibility of competition from other districts, especially in the London markets from the North and the Midlands, which made a Welsh coal combination rather futile.

possible to effect one in Wales, a cleverly thought out scheme prepared by a West Yorkshire coal-owners' committee trying to effect a partial amalgamation scheme was not carried through, although the Reorganization Commissioners had agreed to adopt it as a substitute for compulsory financial amalgamation and less than 30 per cent of the owners had rejected the proposal. The fact was that the majority then refused to proceed, on the ground that the scheme could not be operated satisfactorily unless it applied to the whole district. As Mr. A. W. Archer, a very well-known West Yorkshire industrialist, pointed out in reviewing results of coal developments in 1934,[1] one of the great obstacles to reorganization schemes, to whatever industry they relate, has been the implacability of small but belligerent minorities who have, to a degree far in excess of their importance, been able to delay the process. The West Yorkshire failure in 1934 was indeed typical of almost the whole of the coal trade.

The cartel in such a case would be simply a means of safeguarding the existence of the weakest in the trade instead of securing the economic advantages adhering to concentrative amalgamation. In such cases the "national" advantages of trustification over cartelization can hardly be contested. But the means to arrive at it in peaceful voluntary co-operation have not as yet been found so far as English coal is concerned.[2]

The case of the cotton industry is somewhat different. In the ordinary cotton spinning business there is more geographical concentration than in coal-mining. There is geographical concentration to a considerable extent in Lancashire. The Census of 1920 showed that of 620,974 persons engaged in the cotton industry in Great Britain no less than 529,974,

[1] Cf. *Manchester Guardian Commercial Annual Review*, 1934, 1st February, 1935, p. 69.

[2] Cf. also A. M. Neumann, *Economic Organization in the British Coal Industry*, 1934, *passim*.

or 85·4 per cent of the whole, were in Lancashire or the adjacent parts of Cheshire and Derbyshire.[1] This then should present quite a different situation than in coal, and the effects of this on industrial combination would certainly be visible, if combination depended exclusively on this one aspect of concentration. Indeed, geographical integration in Lancashire and adjoining districts has at least found some practical expression, as the Lancashire Cotton Corporation has, under its new management, ruthlessly dismantled its least efficient mills and concentrated production on the most suitable units. But a wholesale effort in the industry is still lacking. In April, 1934, it was stated by a special correspondent in *The Times*[2] that, although the effective strength of the spinning section was reduced in 1933 to about 48 million spindles, of which some 18 millions belong to the Egyptian section, the whole of the 1933 production of yarn could probably have been produced by about 16 million spindles out of the 30 millions still working in the American section.

In 1934 attempts to bring about some combination in the cotton spinning and weaving industry were not lacking, as indeed no year would be complete, as a trade paper rightly remarked in reviewing the 1934 situation, "without a cotton scheme." But success has not been forthcoming. One of these schemes was the proposal for the formation of a Cotton Spinners' Association. This proposal was, however, abandoned as spinners could not be brought to agree to the contemplated introduction of control by a pool and quota system. Another scheme, commonly called the Redundancy Scheme, was more successful. It was at any rate decided to proceed with it in the spinning branch and it was proposed that 10 million spindles should be scrapped or sealed. But the

[1] Cf. *Textile Industries*, 1928, pp. 5 ff.
[2] Cf. *The Times*, 11th April, 1934, p. 15, "Lancashire at Bay."

problem of " redundant plant " is much more complicated in the cotton industry than elsewhere, for instance in coal-mining or shipping, where it has been successfully inaugurated. The technically most efficient spinning units are very often those which, owing to the orgy of reflotation indulged in after 1918, are on the verge of bankruptcy, and in any reorganization of the industry it is often the comparatively financially sound units which ought to be suppressed, since their plant tends in many cases to be obsolete. It is very interesting to note in this respect the view of the above-mentioned contribution to *The Times*, in which it was said that, " there is not the slightest chance of 100 per cent voluntary cartel agreement being able to maintain itself for more than a very short time," while a favourable emphasis was given to " large scale amalgamation which will enable the load of debt to be cut away from the more up-to-date mills while suppressing some of the older mills which owing to their moderate capitalization are still managing to keep their heads above water ". Here again, then, the possible interlocking between " cartel " and trustification becomes evident since the former seems in fact unrealizable without a decisive advance of a trustification tendency within the industry.[1]

And the same experience seems to apply to iron and steel. Here, as in the textile industry, there are a good many branches, which have long since been federated into national combines and even affiliated to international cartels, such as in rails or tubes or pipes and metal plates,[2] but just as in textiles these agreements had been limited to the finishing and high grade lines of the industry, as for instance the tin plate cartel reorganized in 1934. In the basic branches of the industry—which so far as other European makers are concerned are cartelized within

[1] Cf. also the very instructive Report on the Cotton Industry published in June, 1933, by PEP (Industries group).
[2] Cf. Plummer, loc. cit., pp. 16–17.

the European raw steel syndicates—there was up till June, 1935,[1] no cartelization in Great Britain. As in cotton there had been many " schemes ", but here also a complete success was still owing. As the editor of an English trade paper very aptly remarked, " the problem of the iron and steel industry, though logically simple, is practically exceedingly difficult." [2] The logic simply consists in the fact that a concentration of production on the most efficient plants, and after that some understanding between the now centralized undertakings, would be desirable, not only because it would offer better profits in the home trade, but also because it would offer opportunities of becoming federated to international agreements valuable in the export sphere. And the practical checks are here as in coal or cotton the still existing multiplicity of firms with many divergent interests and diverse aims. The similarity of the situation with coal seems remarkable. Just the same kind of explanation as that brought forward by Mr. Archer in regard to the failure of the West Yorkshire coal scheme was given by Sir William Firth when he declared in 1934, in addressing a meeting of the London Iron and Steel Exchange, that the scheme before the trade had no compulsory power behind it, being dependent on voluntary acceptance and voluntary price agreements, while " it was obvious that the only prices that would be voluntarily agreed upon would be those that showed a profit to the least efficient works ".

We have already mentioned that the new grant of protection to the iron and steel industry had been made conditional upon an effective system of reorganization being carried out. There can be no doubt that as a consequence of this the movement towards concentration has been pushed forward since

[1] An agreement was reached in June, 1935, between the British Iron and Steel Federation and the International Steel Cartel.

[2] Cf. *The Statist*, 3rd February, 1934, p. 162.

1934. The event of that year was the provision of machinery for the reorganization of the industry by the revision, on 19th April, of the constitution of the National Federation of Iron and Steel Manufacturers now known as the British Iron and Steel Federation. Following the programme outlined and supported by this body there have since been a number of amalgamative and concentrative developments within the industry. Thus the Guest–Keen–Baldwin reorganization in Cardiff will result in the concentration of the whole firm's heavy steel production in one plant. The concentration of a large part of the Stewart and Lloyd production of semi's and finished products, such as rods, bars, and tubes, at Corby and their withdrawal from Scotland is another example, following an agreement in 1932 with the United Steel Companies to ensure co-operation in all branches of steel production in which both firms are interested. Moreover it must be noted that one of the great impediments to the unification of interests in the iron and steel industry, the discrepancy of interests between pure and mixed works, is on the way towards being diminished. This has been the outcome partly of a wider recognition of the advantages of vertical combination to large scale enterprise, and it has been due partly also to the effects of tariff legislation.

The duties have had the general effect of widening the field and activities of home production. While the monthly average of total iron and steel exports from the United Kingdom increased from 164·9 thousand tons in 1931 to 178·5 thousand tons in January to August, 1934, the imports of semi-products fell from 104·2 to 36·6 thousand tons. Domestic consumption of finished products was estimated to have risen by 37 per cent from 1932 to the end of 1934. This expansion of production certainly meant a new stimulus to large scale production and thence to a strengthening of concentrative tendencies.

Effect was actually given to what the *Report on Metal Industries* had been hinting at some years ago, when declaring: "The fact that the Continental makers can dispose of their surplus production in British markets assists them in running their works nearer the maximum capacity and consequently with greater efficiency, while conversely the loss of this business to the British makers seriously hampers them by reducing their efficiency and so increasing their costs." The tariff was certainly primarily an advantage to the big horizontally combined works.[1]

But the tariff also stimulated vertical combination by its indirect effects. The duties on semi's were certainly not in the interest of the "pure" works, for which the essential cheap product has in the past only been available from Continental sources.

Hence a new development towards vertical combination sprang up. The independent rollers, which are in any case a declining force, have naturally been hardest hit by the increased costs of semi-products. The function of this branch of the industry is to provide shorter runs, particularly of non-standard sizes, which are not an economic product for the larger mills attached to the steel works, owing to their need of a continuous run. One of the possible solutions of the re-rollers' difficulties is provided by Whiteheads, whose advancing prosperity was one of the remarkable features of the steel industry in 1934. The close working agreement which this company has achieved with Richard Thomas, and the removal of its Tredegar plant to the neighbourhood of the latter's plant at Redbourne in order to ensure a more economic working, are to be noted. Another instance of new verticalization is that of Lysaght's, who produce mainly sheets and who are also taking an interest in the development of raw material supplies in Lincolnshire. It may also be remembered that Guest,

[1] Cf. *Metal Trades*, loc. cit., p. 53.

Keen and Nettlefolds owned 51 per cent of the ordinary share capital in Welsh Associated Collieries—this company being an amalgamation, which took place in 1930, of numerous collieries acquired by Guest's, and the Llewellyn interests respectively, in previous years. The vertical link between iron and steel consolidations and the greatest merger yet known in coal-mines thus becomes evident.[1]

The difficulties experienced in effecting combination in coal, cotton, and steel all lead to the same conclusion. The endeavour to grapple with the problem from the side of the " form " of monopoly seems to have little chance of success. While the movement towards concentration of units has certainly been a key to the formation of monopolies, it is erroneous to believe that now, when such a development is no longer considered harmful, but rather desirable by reason of the recognition of the possible usefulness of cartels or trusts, a co-ordination of competing interests could be arrived at by the simple advice to introduce this new form of industrial organization. Cartels and trusts are not simply devices of industrial organization, but are implicit in certain very stringent and exclusive conditions which again are decisive not only as regards the formation of quasi-monopoly itself but also as regards its alternative forms. The feature of concentration remains the paramount force. It is very interesting to note that industrialists who are in close touch with the practical organizational issues of their industry seem to have grasped this necessity very thoroughly. [Thus Sir Ernest Gowers, Chairman of the Coal Mines Reorganization Commission, reminded an audience of the Cardiff Business

[1] Cf. for facts and figures relating to the foregoing remarks, *Economist*, 1st December, 1934, pp. 1025–6; *Economist*, 15th December, 1934, p. 1156; *The Statist*, 3rd February, 1934, pp. 162–3; *Manchester Guardian Commercial Annual Review*, 1st February, 1935, p. 64; *Metal Industries*, loc. cit., p. 125.

Club in 1933 of the importance of amalgamations,[1] but he was careful to add that " a policy of amalgamations cannot by itself do these things unless amalgamations are very big, in the aggregate, all-embracing ". And he very aptly added : " I believe myself that what we really want ultimately is not only amalgamations but also a looser form of co-operation over an area wider than the industry is willing to take as unit of production. I do not think this can be done except by building a ground floor of amalgamations first and adding this looser form of wider co-operation as an upper story."

This view is probably a correct balancing up of the interconnection between trusts and cartels. But the question remains how to arrive at the desired amalgamations. The view is often heard that the process towards amalgamation and thus concentration is in most cases hampered by the opposition of smaller and inefficient firms. We have given examples which go to show how very " relative " the term " inefficient undertaking " may be ; unverticalized undertakings may have their proper field of economic usefulness and also their financial status may be superior to that of technically better equipped but over-capitalized and perhaps also over-rationalized undertakings. There may be cases of, what Professor Sargant Florence might call in his aptly invented phrase, " illogic " of amalgamation, and a relatively smaller undertaking might be considered better suited to actual conditions of distribution. Even the " reserve " of undertakings of which we have been speaking may be useful in times of boom. Before speaking of a " minority of rugged individualists arresting the progress which from a majority's viewpoint might be essential ", one ought fairly to weigh up these circumstances. The same applies to another group of outsiders, to which, after dealing with the

[1] Cf. Harold Macmillan, *Reconstruction*, London, 1933, pp. 35–6.

competitors just mentioned, Mr. Harold Macmillan, M.P., is alluding in his most instructive essay on *Reconstruction*, when he points to the " new producers outside the agreement ", who may bring about a new duplication of production [1] and create again disorderly conditions. We wonder whether such outsiders will in fact arise, where the solid foundation of concentrative amalgamation exists. We have given a theoretical analysis and a great many practical examples of the domination of quasi-monopoly where no such developments have taken place or would take place. If the effective augmentation of outside-competition on a small scale is really possible the conclusion should not be that this represents a counteracting of the progressive tendencies towards concentration, but on the contrary, the objective conclusion should be that probably the branch of industry in question is not yet ripe for ultimate consolidation. If this is not properly recognized the formation of a cartel would hardly prove a final remedy for competition, since the cartel would after some time, as our examples have shown, create fresh competition within its own borders and a hopeless struggle for quotas which would eventually lead to its dissolution, unless a tendency towards trustification within the cartel should come to its aid. As Professor Wiedenfeld, of Leipzig, aptly pointed out in a Report to the World Economic Conference, such conditions of—may we say—pseudo-cartelization have existed in the German textile industries, in which the material conditions of monopolist concentration have only lately been developing, so that in earlier days the attempts to form combination were said to represent " mock-cartels " only.[2] To attribute to the unwillingness of manufacturers what in many cases is the lack of the " objective " conditions of combination would be erroneous as well as probably conducive to a mistaken

[1] Cf. H. Macmillan, loc. cit., pp. 37–8.
[2] Cf. Hermann Levy, *Industrial Germany*, p. 110.

policy. This does not mean that given the conditions for strong concentrative tendencies the realization of the latter could not be greatly furthered by actions of a different kind, such as wholesale actions to dismantle redundant plant or scrapping programmes as in British shipping.

But in the main the process of concentration and the development of forms of it such as cartels or trusts or both will not be a matter of persuasion or insight to be developed first of all in the brains of the producer. It will be a matter of necessity and evolution—hampered or supported by a greater or lesser willingness to combine—but brought about finally by hard and persistent struggles within industry and between its industrial units. There is almost no single industry which has successfully developed cartels or trusts and which has not gone through such fights, though the new industries are probably less affected by such struggles than the older ones with their differentiated and multiple units. Even a cartel, when not based upon an agreement of very few partners and immune from undesirable new-comers, is nothing like a protection against such bitter fights, and whether the latter will lead to the emergence of a strong and permanent concentrative development of a trust-nucleus within the cartel is not dependent, either, upon the simple will of its partners. These experiences will, wherever quasi-monopolist organization is attempted, dominate its development and stability and remain of decisive influence upon the forms it is to take. These observations should also be kept in mind when the possible relation between "protection" and "large scale industry" is taken into consideration. Of late Sir William Beveridge has, in a very thoughtful way, criticized those who contended that a tariff as such, by increasing the volume of home production, would in any case lead to larger scale units and thereby to concentration. "To diminish by a tariff the imports

of any article in strong demand," retorts Sir William,[1] "will, of course, lead to more of it being made at home. But the larger volume of production may be spread over innumerable small factories as before; there is nothing itself to favour large-scale rather than small-scale production". However, the one generalization seems quite as misleading as the other. In the English iron and steel industry protection has, as just described, been working in the way of concentration. Here the concentrative tendencies already existing in the industrial structure were enhanced by the effects of protection. Where such tendencies do not exist or where they are counteracted by other circumstances, such concentrating effects of tariffs may not follow, as for instance has been the case in the motor industry of Great Britain "in spite" of protection. The whole debate on this point simply demonstrates that protection, apart from increasing the territorial integration of industry, may be active in the direction of creating larger units, where it coincides with existing or latent conditions, technical and economic, favouring concentration.

[1] Cf. *Tariffs, the Case Examined*, 1932, p. 96; also *passim*.

PART V

THE FINANCE OF BIG UNITS

§ 18. *Modern Sources of Capital Supply*

While the development of any kind of agreement, such as cartels, syndicates, or even to some extent the closer knitted " communities of interest ", will not necessitate a change in the financial structure of the undertakings adhering to such agreements, the case is fundamentally different with modern amalgamations which aim at concentrative effects.

There is a striking difference between the old type of single-unit industrial undertaking, the factory or single joint stock company, which had no other financial aim than to procure and administer in a proper way the necessary amount of capital, and the modern big industrial unit, represented by huge amalgamations, horizontal and vertical combination, and carrying with it the aim of control, if not domination or monopoly over a large, or possibly the whole, field of the respective branch or sector of industry. " Self-finance," even in a wider sense, becomes in general out of the question. While within the old type of industrial organization a factory or single undertaking could gradually increase its capital, either by plowing back into the business some of the profits of its operations or by taking increasing profits, when they proved to have some stability, as a basis for increasing its share capital in the regular financial way, the expansive aims connected with consolidations and concentrative amalgamations far surpassed such possibilities. The task was now to supply the capital needed, not for the mere enlargement of the technical plant of a company,

but for creating more efficient units by consolidation or for forming an amalgamation which by a quasi-monopolist domination would increase the aggregate profits of the merged or combined companies beyond the sum accruing from the profits of the single undertakings added together. A new kind of financial business connected with industry thus arose, and a new set of financiers, in general not very favourably received by the public, took care of it. In fact modern promoters bear a certain resemblance to the "projectors" of former centuries, they are a new set of commercial or financial industrialists who were certainly not known, because they were not a necessity, in the single-factory era of decentralized industrial development. Their task has been and still is to float financial projects huge enough to tackle the wide field of capital supply necessitated by the amalgamative aims of large undertakings, which imply the buying out of weak competitors, getting control over raw materials or over the later stages of production, and all the other features of concentration which we have described before. It is their task as propagandists to allay popular apprehension of monopoly by insisting that the merit of such organization rests on the fact that they would promote economies of operation, provide a more efficient form of management and stabilize industry, and that the reward of such effects would be increased returns to the shareholders without injury to the public at large.[1] In the U.S.A. "few of the consolidations were set afloat without a good load of water ballast—almost all of them in one form or another capitalized prospective profits", so we read in a Report of the National Industrial Conference Board which was published not long ago on this subject.[2] Thus a part of the capitalization was formed by watered stock, to be diminished

[1] Cf. *Mergers in Industry*, 1929, p. 3.
[2] Cf. loc. cit., p. 34, also *passim*.

later on by profits accruing from the new capital or, in the case of a disappointing trust career, by reducing again the share capital to the detriment of the shareholders.

There is no doubt that in England as well the capital required for the formation of amalgamations and combinations of companies was at times largely drawn from over-capitalization, and the set-back which followed in industrial affairs some years after the declaration of Peace led many of these same large companies, which were conspicuous in the public eye, to take steps towards reducing their share capital or lightening the burden of their capital commitments by other means, as for example a moratorium on debentures. While the most important individual cases in which such action has been taken have occured in the English iron and steel and engineering industries, noteworthy examples can also be found in connection with shipbuilding, cotton spinning, wool, rubber, glass, dyestuffs, and food products.[1] It must certainly be kept in mind that over-capitalization as practised since the War is by no means an exclusive feature of combination finance in industry. The very depressing example of the Lancashire cotton-spinning industry in that respect shows that such capitalization may go on without leading to or ending in concentrative development,[2] but there is on the other hand no doubt that this kind of capitalization of "forthcoming" or potential profits has played an important role precisely in the finance of big units expected to become a nucleus of some movement towards consolidation in the whole branch of the industry concerned. The many and heavy disappointments encountered precisely in regard to this side of combination-finance should not be taken as a proof

[1] Cf. *Further Factors of Industrial and Commercial Efficiency*, 1928, pp. 170 ff.
[2] Cf. ibid., pp. 22–3.

of defects inherent in the whole system of financing amalgamations by a capitalization which anticipates their economic advantages. It must be remembered that here as well " illogic " seems unavoidable, and in the special case of some of the post-War failures in British industry the Final Report of the Balfour Committee rightly and cautiously remarked that " no general conclusions can be safely drawn from their experiences and miscalculations, under such wholly exceptional conditions, as to the economic results of large scale operation itself ".[1]

This remark also applies to the system of large scale financing by capitalists, promoters, or financial organizations which aimed at the formation of big consolidations and combines. The criticism should not be applied to the system which merger- or trust-finance represents, and which may be not only perfectly sound, where economic conditions are normal and can be logically forecast, but also a plain necessity, since in fact the single undertakings could in the majority of cases not by themselves supply the capital[2] for effecting consolidations and amalgamations of all kinds and for realizing comprehensive plans of reorganization of industry on the basis of concentration. This attitude should also be adopted towards combinations which, during their first years of existence or some exceptional periods, may come very near to a failure, if not to what may be called a crash. One such instance has been that of the United Steel Companies, which were financially reorganized in the spring of 1934, the control of the United Steel group passing out of the guardianship of the banks into public hands. While the trading profit of the United Steel Companies had risen from £130,791 in 1930–1 to an estimated £850,000 for 1933–4

[1] Cf. *Final Report of the Committee on Industry and Trade*, 1929, p. 178, also p. 183.

[2] Cf. for a very full description of post-War over-capitalization and failures of combines, Fitzgerald, loc. cit., pp. 189 ff.

(covering an ordinary dividend of 5½ per cent), an influential group of issue and finance houses, along with the Prudential Assurance Company, came to a new arrangement, by which it was agreed that 4,500,000 one pound shares of United Steel should be bought at par from the holding concern to be offered to the public. The concern in question, which is responsible for approximately one-sixth of the total British steel production, now owning the most efficient plant for the production of almost all heavy steel goods, especially semi-finished materials, was originally a 1918 amalgamation of well-known plants in Lincolnshire, South Yorkshire, and Cumberland, to which the United Strip and Bar Mills were added in 1930, while it has also been active in making favourable arrangements with other concerns such as Stewarts and Lloyds and Barrow Hæmatite.[1] If the Company returned, after five years of absence, to public ownership, this justifies the laconic remark of a trade paper which in announcing its financial reorganization alluded to the "twisted and unhappy genius" of Clarence Hatry as having been "some years in advance of his time".

It is only natural that the prospect of forming a wide network of "profitable" combination in the industrial sphere should have induced single capitalists and financiers, as also sometimes large powerful undertakings in a branch of industry, to trespass beyond the limits set to such finance by the economic necessities of the industry in question.

In the last fifteen years it has certainly not always been the genuine financial need of industry in regard to the carrying through of a more economic concentrative organization, which has bestowed upon finance capital the opportunity of providing new services for industry and has created a closer link between

[1] Cf. for particulars, *Metal Trades*, p. 126, and *Economist*, 19th May, 1934, pp. 1094 and 1096.

finance and industry, but the reverse has happened as well. Financial men and others may in many cases have overrated the opportunity offered to their expansive aims, and concentrative tendencies in industry often became a hunting ground for speculative dealings of a doubtful character. In some countries, like Germany or Austria, this tendency was strengthened in a most catastrophical way during the period of heavy and reckless inflation, which added to the tempting opportunities for financing concentration in industry the desire to get away from mere " paper "-investments and to invest in " real " values (Sachwerten) as a safeguard against further losses resulting from the destruction of the value of money.[1] But quite apart from such extraordinary circumstances the modern development of finance in respect to industrial organization has disclosed the fact that a successful handling of opportunities for industrial consolidation has prompted financiers to enlarge their activities over a radius far outstripping the initial scope of their investments in the respective sector of industry. In such cases it is not financial capital which has come to the help of industrial organization, but on the contrary the money made by industrial concentration has bestowed unforeseen possibilities of expansion on financial capital.

We are reminded here of the romantic though eventually unfortunate career of Ivar Kreuger. The key and initial position of his activities was the manufacture of matches. There can be no doubt that in all countries a movement towards a concentration of match factories had set in by the time Kreuger started ; examples of this are Bryant and May and Co.

[1] Cf. for a very interesting and full description of the activities and romantic career of financial and industrial magnates in the inflation period, Richard Lewinsohn-Morus, *Die Umschichtung der Europäischen Vermögen*, Berlin, 1925, especially concerning men like Stinnes, Otto Wolff, Hugo I. Herzfeld, J. Michael, Camillo Castiglione, Petcheck, the Perrone brothers, and others.

in England, and there was trustification in the American match industry, while in Germany the Deutsche Zündholzfabrik A.-G. in Cassel and its ally the Stahl and Nölke concern in Dresden were controlling about 30 per cent of the German production. The opportunity of forming larger units, either by organizing the existing big concerns on a monopolist basis or by combining the groups of outsiders, was evident and the special advantage which Mr. Kreuger could offer in the economic field was verticalization represented by his original Swedish undertaking, since the Svenska trust had in due course succeeded in securing its own raw material supply, as for instance by acquiring, besides a 99·9 per cent interest in the Swedish Pulp Company, huge forest properties in Eastern Europe, the home supply of wood being only utilizable to a limited extent for the fabrication of matches. The "modus", however, of forming his national match monopolies by financial power was Mr. Kreuger's special device. It was the same as was practised in England from the death of Queen Elizabeth to the Civil War by projectors and "patentees" of all sorts, who saw their chance in lending money to the Crown in return for the grant of some monopoly.[1] Mr. Kreuger procured loans for countries faced with a serious shortage of funds in return for the grant of a match-monopoly or similar concessions.[2] He became a world-wide trust magnate of the highest importance. That he eventually turned out to be, as an English trade paper put it, "a veritable prince of swindlers" and that he tried to bolster up his over-ambitious schemes by rubber-stamps with facsimilated signatures should be no reason for not correctly valuing what had been economically sound in his industrial and commercial foundations and which

[1] Cf. for a full description Hermann Levy, *Monopolies, Cartels, and Trusts*, 1927, pp. 18 ff. and 57–8 and the whole chapter iii.
[2] Cf. also Plummer, loc. cit., pp. 42 ff.

has not disappeared since the crash. If a paper with so much responsibility in financial affairs as the *Economist* explained to its readers in May, 1931, that Mr. Kreuger's trust had developed the idea of "financial service, which directed itself first to the Swedish Match Company, then to other Swedish industries, and finally to the world industry as a whole", and if this commendation was supported by this paper by a tabulation of the system of organization practised by this trust and dividing and integrating its activities in such groups as "Banking", "Mortgage," "Industries,"—mainly connected with the supply of raw materials to the match industry—"Matches" and "Telephone and Telegraph",[1] there should be no reason to doubt that the whole undertaking would have been proved a permanent success, if it had not been the almost mad ambition of its leader to enlarge its financial power over fields entirely unrelated to the economic sphere of its initial activities, the pillar of which had been the concentration tendencies in the fabrication of matches. When the *Economist* wrote this article the capital, which had once no doubt been of some considerable economic and organizational service in connection with concentration in industry, had long ceased to be limited to this function, but on the contrary, had been alienated from its appropriate and logical ends and aims, and directed into uses most harmful to economic welfare.

It has of late become more and more evident that the concentrative tendencies in modern industry are giving a double role to financial capital. While concentrative organization necessitates, in contrast to the position of the former single independent manufacturer, a supply of capital by some "outside" financial power—either of single capitalists or of banks or of some big concerns in the trade itself

[1] Cf. *Economist*, 9th May, 1931, pp. 1005-6.

which have acquired outstanding financial strength —the very development of combines may create an accumulation of capital seeking investment beyond its original domain. The combine itself then has risen to financial power. This may lead to a combination of very heterogeneous production within one single commercial unit. Such a combination of branches of production is no longer related to decisive horizontal or vertical necessities. The links are in the main of a financial character. This does not, of course, imply that the branches of heterogeneous production may not be related to each other in a more or less distinctive way. Imperial Chemical Industries, Ltd., for instance, represents an international combine producing heavy chemicals, fertilizers, explosives, insecticides, dye-stuffs, non-ferrous metals, motor cycles and radiators, lightning fasteners, paints, varnishes, insulators, and leather cloth. And its German rivals—if the word "rival" may still be used in view of the existing interconnecting investments of both trusts—even surpass this list, for I.G. Farben besides producing most of the lines mentioned is an important manufacturer of pharmaceutical and photographical chemicals, films, film and tracing papers, artificial silks (viscose, acetate, cuprammonium), perfumes, motor spirits, and even artificial stones. These products, being of wide importance in its manufacturing programme, hardly justify any longer its designation as a "dye manufacturing company", I.G. Farben, which indeed is now merely a reminder of the initial stages of its extraordinary combinatory development.[1] In many cases the interest of a combine in these heterogeneous products is merely the result of interconnections with other combines, but this fact hardly changes the aspect of the question. The essential fact remains that huge concerns or combines may

[1] Cf. for facts, Plummer, loc. cit., p. 50, and Levy, *Industrial Germany*, p. 66.

embark financially into other lines of production, related or unrelated to their initial activities. This constitutes a fundamental distinction between the former units of industrial production—the privately owned factory or the joint stock factory before the development of industrial concentration—and modern industrial undertakings. These have added the function of financiering to that of merely manufacturing. "The I.G. Farbenindustrie," so writes Professor Liefmann, in 1930, "has carried out a financial operation almost every year, this being a proof that the need for capital for further affiliations and new methods of production is still very heavy in spite of large profits and reserves." [1] Such affiliations may be very nearly, or very distantly, related to the type of production of the financiering industrial undertaking and from that it will probably depend whether this undertaking secures its influence mainly in regard to the problems of production and administrative technique or to that of financial domination. Thus, for instance, the Nobel Dynamite Trust had invested one-fifth of its post-War assets in permanent investments, which had nothing to do with explosives, being mainly comprised of holdings in the General Motors Corporation of the U.S.A., the Dunlop Rubber Company, British Celanese, and other undertakings.[2] The financial operations of modern concerns and combines arising in this way are in many cases so enormous that special financial credit institutions are vested with the duty of taking care of them. Such institutions, in the form of subsidiary companies, are represented in the case of the German chemical trust by the Deutsche Länderbank, the Stickstoff Kredit, Ltd., and the A.-G. für Landeskultur, all in Berlin.

While the financial strength and the possibility of acting as powerful financiers has certainly accrued

[1] Cf. Liefmann, *Kartelle, Konzerne und Trusts*, 1930, p. 387.
[2] Cf. Fitzgerald, loc. cit., p. 95.

to modern industrial combines, so far as they have had a prosperous career, primarily out of the successful exploitation of concentration in industry, there is no doubt that, when once constituted, such a financial position may in turn react on the economic status of the concern or combine in question by bestowing on it further elements of competitive or monopolistic strength. It is only natural that inventors or discoverers, for instance, will find it useful to turn their attention as regards the commercial exploitation of their innovations primarily to the big units in the industry, such as may act as the suppliers of the necessary capital, especially if the outlay is going to be heavy as is very likely in the chemical branches, in liquefaction, in pharmaceutics, etc. This again will be so much more the case as modern research in many instances implies a long period of risk and experimentation in the early stages to be borne by those who are prepared to finance such novel methods of production, besides sometimes necessitating an outlay of capital equal to that required by whole "branches" of industry, as has been, for instance, the case with German nitrogen and nitrogen products.[1]

If trusts are prepared to use their financial assets for the financing of such undertakings they may in so doing—in the case that the new process is likely to threaten other combined interests—create a stimulus for still wider ramifications of their industrial sphere of activity. This and financial considerations may be active in creating new and still more powerful consolidations and agreements as is, for instance, demonstrated by the newly formed connections between the Standard Oil group of the U.S.A. and Royal

[1] Cf. Hermann Levy, *Industrial Germany*, p. 68. The Leuna Works of the I.G. Farben, the big nitrogen plant near Merseburg, which in fact represents the largest single unit of the trust and which forms the nucleus plant for the utilization of the Haber-Bosch nitrogen fixation process, was constituted as a limited company with a capital of no less than 135 million RM., of which I.G. Farben owns 101·25 millions and the important chemical undertaking of Leopold Casella the rest.

Dutch Shell on the one side, and the German I.G. Farben on the other side following the success of the latter in the fields of coal hydration and the synthetic manufacture of liquid fuels.[1] An interesting example showing the importance of large and financially strong units in face of competitive developments arising out of new inventions may be taken from the recent history of the English "Imperial Smelting Corporation". As the chairman of the company, Sir Robert Horne, explained at the fourth annual meeting of the company, the development of the so-called "vertical retort" in the U.S.A. would have been, if left in competitive hands, "wellnigh disastrous" to the company, but "it was fortunate for us that the friendship between the principals in the New Jersey Zinc Company and ourselves gave us the opportunity of first studying it in operation and of acquiring it afterwards".[2]

§ 19. *The Role of Banks*

The description of the new methods which have evolved in the sphere of the financing of big industrial units would indeed be incomplete, if the role of banks were not duly taken into consideration. It is only natural to assume that the financial requirements arising in connection with concentration in industry would be a most welcome opportunity for enlarging and stimulating the activities of banks or banking concerns. But we are at once confronted with very different conditions in different countries, especially when we compare the relatively recent development of concentration in British industry with that of its American or Continental rivals.

The Macmillan Report of 1931 has dealt very ably with these differences.[3] It is interesting to note that

[1] Cf. Hermann Levy, *Industrial Germany*, p. 97.
[2] Cf. *The Times*, 17th November, 1933, p. 23.
[3] Cf. *Committee on Finance and Industry*, 1931, pp. 161 ff. and *passim*.

the attention of this Committee was drawn to the fact that the position in England, which is characterized by a reluctance of banks to be entangled in the business of financing combines or financially reorganizing industry —an attitude which has been very much criticized —has been largely due to the historical structure of British industry and not so much to the " system " of English banking. It is in conformity with the conception of the big unit explained in this book, if the former structure of the industrial unit is taken as the explanation of the non-existence of—or at least looser—connections between banking and industry in England. When British industry began its rapid growth in the nineteenth century, so says the Report, there was no particular reason why it should look to the London market for its financial requirements. Industry was in those days, so far as each unit was concerned, on a comparatively small scale; its basis was in the main a family one, its capital was provided privately and built up and extended out of profits; in so far as it required banking facilities, it obtained them from the independent banks, often family banks, which had their headquarters in the provinces, and particularly in the Midlands and in the North, where the new industries flourished; moreover, there had been existing for many years in this country a large class of investors with means to invest, who did not rely entirely on their bankers as regards judging what they should invest in.

If, on the other hand, the missing link between big banks and industrial finance is attributed to the fact, " that industry, having grown up on strong individualistic lines, has been anxious to steer clear of anything which might savour of banking control and interference, this attitude coinciding with the views which prevail in this country as to the province of sound banking," this is an explanation to which there are objections. The reasons mentioned here are merely

psychological. That they may have been active as checks to a new development of bank aid to huge undertakings, or that on the other hand they may have been active in retarding the willingness of manufacturers to effect concentration, for fear of losing their financial independence, may certainly be agreed. But this does not mean that they have, *in the long run*, been of essential importance. In fact the English experience, if compared with that of Germany or the U.S.A., shows that so long as concentration of industry in the forms of horizontal or vertical combination and of huge quasi-monopolist concerns is not developing, there exists no stringent necessity for the financing of industry with the help of "outside" capital as supplied by big banks. The particular "attitude" of British banks is not so much to be attributed to special "English" economic traits as to the fact that the necessity for close co-operation between banks and industry did not exist in its present measure prior to the development towards industrial concentration.

But there is still another side of the problem. The industrial activities of big banks in Germany and the U.S.A. were not only implicit in the increasing capital requirements of industrial undertakings, especially when a concentrative movement was going on, but looking at the matter from the capitalist's viewpoint it was industry which presented one of the most promising fields of profits. Industrial development, outside England, became from the eighties onwards a hunting ground for financial ventures. This was the case, firstly where new industrial activities were developed, the units of which were from their beginning in need of a greater amount of capital than had been needed in the past by industrial undertakings. And the development of industrial Germany in the eighties and nineties supplies a good many examples of such a development, while in the U.S.A. financial

capital certainly had better prospects of successful dealings when devoting its activities to the development of the home industrial resources than when competing with the old-established representatives of international finance. In England, as we have seen, the movement towards concentration in industry necessarily came later than in Germany and America, and when it came its financial requirements were in many cases of a lesser magnitude than in these countries, as the units of production or combined production were either in general not of the gigantic size of those in Germany or the U.S.A. or were situated in the finishing branches of industry which required lesser amounts of capital than the "heavy" branches of industry which played so prominent a part in the concentration of German and American industry. Financial capital in England sought investment where, as one might say, the chance of British financial predominance was greatest. Industry was developing on traditional lines and financially was taking care of itself, while the world-wide importance of English trade and commerce and the capital requirements of foreign countries represented far greater and more tempting and indeed unlimited opportunities for further financial expansion. English finance could rely upon an almost monopolist position in this sphere.[1] And this brings us to the second group of facts which in Continental countries as in America gave an incentive to finance to take a pronounced interest in industry.

It was not only the attraction offered by the dynamic side of young and at the same time integrated industries

[1] Cf. *Macmillan Report*, p. 161: ". . . the exceptional merits of the City of London lie in the facilities given . . . in the financing of trade and commerce, also both home and foreign; and in the issue of foreign bonds, as distinguished from the financing of British industry." Ibid., p. 162: ". . . but the relations between the British financial world and British Industry, as distinct from British commerce, have never been so close . . ." Ibid., p. 171: ". . . in some respects the City is more highly organized to provide capital to foreign countries than to British industry."

developing in the form of large scale units, which attracted the banks as industrial financiers or which developed what Dr. Goldschmidt, the former chief director of one of the German " great banks ", called before the Macmillan Committee the " entrepreneur " spirit in banking, nor was it in many cases an aim which could be explained by the desire for " service " on the part of the banking financiers, but a great many of the most important banking transactions in relation to industry were instigated by the desire to bring about a highly profitable monopolist organization and to participate in the increased or hoped for profits of such combination. It is precisely in the field of the German amalgamations designed to enhance quasi-monopolist domination and in American trustification as exhibited by the gradual formation of huge mergers that the role of banks has been important, although one must pay attention to the structural differences of banks in the two countries, the decentralization of banking, characteristic of the U.S.A., having given prominence in industrial financiering to private promoters and financiers, who procured the necessary capital for their transactions by getting control over banks, Trust Companies, and insurance companies, while the German " Gründungs "-Banken (founding banks) were much more under public control.[1] But in both countries monopolist tendencies so early and distinctly developed in industry may be regarded as one of the conditions which were in large degree responsible for the influx of banking capital into industry, while again one is able to observe a reciprocal effect, just as in the previously described case of big units sometimes becoming the suppliers of financial capital. Indeed concentration in industry has in several cases encouraged industrialists to step into the banking business, using it as an instrument for possible further expansion either of financial strength or of additional

[1] Cf. Liefmann, loc. cit., pp. 373-4.

industrial ramifications. In that case the connection between banking and industry is not limited to the association of certain banking institutions with the special activities of a combine or huge undertaking, like " Konzern-Banks ", but the aim is to embark into the business of the banking financier proper. In Germany this was attempted by Hugo Stinnes during the inflation period, by way of obtaining a majority of the shares of the Barmer Bankverein, which again was intimately connected with the two other important financial banks, the Deutsche Kreditanstalt of Leipzig and the Bayrische Hypotheken und Wechselbank in Munich.[1]

As regards the U.S.A. the two tendencies can best be studied by taking on the one hand the " Morgan group " of banks[2]—which from the very beginning of the Steel trust had been closely related to the American iron and steel industry and later to the electrical industry and others—and on the other hand the big oil interests, represented by the Standard Oil group which have invaded the banking field by working up close connections with the Harriman banks, the Kuhn, Loeb and Co. concern and its banking connections (International Acceptance Bank), and later on with Blair and Co., Chase Securities Corporation, and Dillon, Read and Co., with the special purpose of backing by their own financial strength the activities of these banks and simultaneously using their financial influence for further " Standard " transactions in various fields of industrial activity.[3]

In this way the banks necessarily attained in Germany as well as in the U.S.A. an almost paramount influence not only as the mere technical suppliers of capital to all kinds of combination,[4] but also as the framers of

[1] Cf. Lewinsohn-Morus, loc. cit., pp. 88–90.

[2] J. P. Morgan and Co., First National Bank of New York, Guaranty Trust Co., Bankers Trust of New York, National City Bank.

[3] Cf. Carl Hoffmann, *Oelpolitik und der angelsächsiche Imperialismus*, Berlin, 1927, pp. 197–9.

[4] The procedure generally followed has been described, so far as concerns German conditions, by Hermann Levy, *Industrial Germany*, p. 180.

amalgamations, consolidations, and trustifications, and as bodies taking a permanent, very influential interest in their structural development, refraining in general from anything in the proper domain of "industrialists", but sharing their influence in all transactions of financial and organizational importance.[1]

Considering the development of industrial concentration in England it is only natural that such developments in the banking sphere should have been alien to its industry up till quite recent times. But again it is significant of the fundamental necessities underlying and implicit in a strong movement towards industrial concentration, wherever it appears, that with the fast developing movement of industrial combination in England the discussion of the relationship of banks to industrial concentration, its aims and exigencies, has been keenly discussed for the very first time in modern English economic history. We find such discussion in the Balfour Report as well as in the Macmillan Report.[2] It is interesting to note that the latter, being published two years later than the former, in 1931, has taken a much more active view in regard to the possible and necessary functions of big banks in relation to industrial finance. The Balfour Committee had expressed the view that "the machinery for supplying the financial needs of industry is on the whole adequate and suitable", though at the same time the Report thought it necessary to "make it perfectly clear" that such a statement did not "imply that an adequate supply of capital is actually being absorbed by British industry for essential purposes such as re-conditioning and modernization of industrial plant, buildings, and equipment". But this is just the point where possibly novel functions of big banks should come in! There are two problems here which

[1] Cf. *Macmillan Report*, pp. 163, 168–9.

[2] Cf. *Final Report of the Committee on Industry and Trade*, 1929, pp. 46 ff., and *Macmillan Report*, 1931, pp. 161 ff.

one should most carefully avoid confusing. One relates to the ordinary banking facilities traditionally afforded by British banks to British industry, at moderate rates of interest provided that reasonable security is forthcoming; there is nothing unsatisfactory as regards the development of this function and it may be taken for granted that on the whole British industry is to-day better served by the banks than before the era of banking amalgamations. But it is another question, much more disputable, whether the big banks have been sufficiently interested in the new structural development of British industry, as brought about or to be brought about by combination, amalgamation, consolidations, etc., with a view towards assisting and even spreading new organizational developments. Here, the Macmillan Committee, without committing itself to any definite view, seems to have been less affirmative, for we find in its Report such passages as " British companies in the iron and steel, electrical, and other industries must meet at the gate their great American and German competitors, who are generally financially powerful and closely supported by banking and financial groups, with whom they have continuous relationships " or " coming back now to the more general question of the relationship between finance and industry, and in particular to the provision of long-dated capital, we believe that there is substance in the view that the British financial organization concentrated in the City of London might with advantage be more closely co-ordinated with British industry, particularly large scale industry, than is now the case ".

This point should be taken into consideration when dealing with " attacks on the banks " such as have recently been made. There can be no doubt that British banking stands in many ways above criticism, especially when viewed internationally. As the Chairman of the National Provincial Bank, Ltd.,

pointed out at the annual general meeting of January, 1935, the position of British banks was never called in question, and even the upheaval in 1931 left the system unscathed. In the same way the Chairman of Barclays Bank, Mr. William Favill Tuke, at the annual general meeting of 23rd January, 1935, was anxious to "answer criticisms" by asserting that "Great Britain has been free from banking failures for such a long period that the security afforded by the Banks in this country is taken for granted by all sections of the community". But while this is certainly true and while undoubtedly, as Mr. Tuke said, the "Customer of a British Bank, who is credit-worthy, can always obtain legitimate—I would stress this word—banking accommodation", it must be asked whether, indeed, the great caution and responsibility successfully exhibited by big British banks is to be regarded as incompatible with the new need of industrial concentration for a closer and more active collaboration with big banks? In that respect the answers given to critics with an almost surprising unanimity by chairmen of the most important banks in January and February, 1935,[1] seem to be rather evasive and not quite to the point. When again Mr. W. Favill Tuke points to the fact, "that if industry is depressed, the banks inevitably suffer, whilst on the other hand, if industry is prosperous, the Banks benefit from the more favourable conditions," this very plain truism merely views the question from the somewhat narrow standpoint of banking technology, while the question is left untouched how far it might under existing conditions of industrial structure become possible and even necessary for banks to create or further the prosperity of industry, so far as it depends upon the financial support of organization or reorganization,

[1] Cf. also the speech by the Right Hon. R. McKenna before the Ordinary General Meeting of the Midland Bank, Ltd., *Economist*, 26th January, 1935, pp. 204–5, "The Banks and Industry."

necessary amalgamations, and other issues evolving out of concentrative forces in industry.

It may, of course, be argued that recent experiences of banking enterprises connected with large scale industry have been far from satisfactory, especially in Germany and the U.S.A. The crashes of the last few years in both countries have certainly proved the danger of tying up depositors' money in long-term advances which may be difficult of repayment, and Mr. J. Beaumont Pease, of Lloyds Bank, has recently very aptly hinted at the fact that the vast extension of commercial bank credit in the U.S.A. between the middle of 1922 and early in 1928 and the subsequent unprecedented crashes have demonstrated that "extended credits are not by themselves cures for bad trade".[1] But before such experiences are used to illustrate the "dangers" inherent in a greater financial activity of banks in relation to industrial reorganization it should be made quite clear that in Germany as well as in the U.S.A. abnormal and certainly most regrettable circumstances of credit inflation have been at work, the disastrous effects of which should not be used to discredit the absolutely normal necessities as regards the role of banks arising out of concentration in industry.[2]

[1] Cf. *Economist*, and February, 1935, p. 269.

[2] As regards the situation and excess of credit inflation in Germany, cf. Levy, *Industrial Germany*, pp. 180–1 and 209–213, as to the U.S.A. Professor Lionel Robbins has very ably dealt with it, op. cit., pp. 43 ff. and *passim*, showing also the extent of credit expansion in the pre-1929 period in other countries, cf. pp. 49 ff. Another author, A. M. Macgregor, in *The Correct Economy for the Machine Age*, London, 1935, p. 121, makes the surprising statement that "the U.S. was in a thoroughly sound position at the beginning of 1929", although he agrees that "there was too much inflation in the stock market". Mr. Macgregor does not provide the necessary proof for his contention, his main thesis being that "wages were not high enough" to set inflation right. In contrast to such "theories" we may draw the attention of the reader to the elaborate *Report* by Sir John Joyce Broderick and Arthur J. Pack, of 1931, Department of Overseas Trade, *Economic Conditions in the United States of America*, p. 7 and *passim*; the National City Bank of New York writes in its February *Review*, 1935, p. 27: "In the great upheaval caused by the World War, and the resulting unsettlement of economic relations, . . . the banking business has suffered

§ 20. *The System of Interlocking Finances*

While the simplest and theoretically most straightforward way of financial concentration of industry would doubtless consist in amalgamation of companies or undertakings by fusing the firms which had hitherto been competing with each other, in practice this system is by no means the rule. It is not even sure that mergers would be the final stage of financial concentration in industry, as forms of capitalist control, consisting in some financial interconnection only, might not in all cases be considered as the mere forerunners of complete fusion, but might have a rather lasting existence. In England a very varied picture presents itself in this respect. Few of the existing combines are completely unified undertakings. Many are bound together by holding companies, others consist of companies bound together by exchange of shares, others again are in part holding companies and in part consolidations, which again may have allied themselves with other companies by means of exchange of shares or interlocking directorates.[1]

In connection with the problem of capital supply to the big unit and its finance the question of whether the one or the other form of organization of large companies, concerns, or combines may be considered as the most " perfect " type of combination from the point of view of domination and industrial control

from a cross-fire of criticism which on the whole it has not deserved. This is not to say that there was no mismanagement in banking . . . but simply that the disorders in banking had their origin in extraordinary conditions in the business world, and that the latter had their origin outside the normal activities of industry and trade. The entire situation was abnormal, and no intelligent discussion of the conditions can be had without an appreciation of the influences set in motion by the War." This view, though it may be taken as a sort of *pro domo* argument, certainly contains some truth, and if not accepted as a whitewash of the banks before 1929, it may at any rate serve to some extent to prevent a system from being blamed without regard to the circumstances responsible for its temporary abuses. Cf. also, F. W. Hirst, *Wall Street and Lombard Street*, 1931, pp. 150 ff.

[1] Cf. *Factors*, etc., loc. cit., pp. 72–3 and 76.

does not interest us here. One can agree with what Professor Sargant Florence has recently declared in his essay: "Clearly the Corporation or joint stock company is the dominant form of control and is gradually becoming still more dominating, particularly where large-scale organization is concerned. Nor does the recent tendency towards combines, especially in the form of holding companies, alter the situation. For the holding company which controls several corporations or joint stock companies by ownership of the majority of their voting stock is itself a corporation or joint stock company." [1]

The system of financial interconnection as contrasted with that of fusion or amalgamation may in many cases have arisen out of a desire on the part of the promoting forces to leave to the different undertakings to be combined some sort of managerial and administrative independence,[2] and it may also in some cases have been the result of a somewhat cautious policy of combination which was anxious to avoid, at least at first, a too close and final consolidation of interests, which one day or other might again be better separated from each other—a view which has been justified in many instances of modern combinatory development, as for example lately by the reorganization of the German Steel Trust, which meant to some extent a financial "un"-locking of the companies federated to it by greater centralization on the one side and on the other a parting from an undertaking which seemed no longer to fit into the combinatory structure of the combine.[3] Again, there may be certain obstacles of various kinds during the formation of a combine or concern, checking the immediate merging of companies, such as, for instance, the desire to leave the settlement

[1] Cf. Sargant Florence, loc. cit., p. 144.
[2] Cf. Levy, *Monopolies, Cartels, and Trusts*, 1927, p. 280 and *passim*.
[3] Cf. Levy, *Industrial Germany*, pp. 167–9. The undertaking in question was the Essener Steinkohle A.-G., a company with a capital of 70 million RM. Cf. *Berliner Börsenkurier*, 29th November, 1933, p. 13.

of old debts to the single companies which are being financially combined.[1]

All these circumstances do not, however, seem to touch the most essential point of financial interconnection as compared with direct fusion. The main advantage lies in the facilities of capital supply and the cheapening of the procedure of combination. This latter consists in the fact that it is much more economical to form a limited company with a small capital to take over the majority if not the whole of the shares or voting capital of the companies to be amalgamated, and thus avoiding the costly act of creating a new corporation. In England, as well as in other countries, there are many pitfalls from an income-tax point of view in a direct merger, which would take too long to enumerate,[2] and probably the first point has been a still stronger incentive for preferring financial interconnection to direct fusion. This system, consisting in the formation of different types of "companies" directed towards the same end of financially interconnecting different undertakings, is, as Professor Plummer has rightly put it, the cheapest way of building up a concern or trust, because "less capital is needed to purchase a succession of controlling interests in various companies than to acquire their property and goodwill by direct purchase of each undertaking",[3] and yet "the promoters have the use of the investment of all the minority holders in all corporations brought under their control". By "pyramiding", a holding company may gain control of subsidiaries through its holdings of slightly more than 50 per cent of the shares of these subsidiaries.

[1] Cf. Levy, *Industrial Germany*, p. 168.

[2] They have been very ably dealt with by H. E. Seed, "Holding Companies and their Income Tax," *Manchester Guardian Commercial*, 30th November, 1934, p. 425.

[3] Cf. Plummer, loc. cit., p. 28; also, for many interesting instances in English and international industry, *passim*.

Thus two main types of interconnecting companies may be distinguished, which, though with some differentiations and graduations in regard to their respective influence on control, aim at the common end of linking big units and undertakings together without having recourse to fusion. The one is the holding company, originally invented by an American, S. C. T. Dodd, and widely used in American corporation finance, the other the subsidiary company. In the case of the holding company a group of companies sells its shares, or a majority of them, to another company, established for the purpose or already existing, the shareholders of the individual companies receiving in exchange shares in the holding company. Where no such specific company is formed, two, or a number of companies, may link their fortunes together by means of exchanging shares. The precise effect depends upon the comparative sizes of the companies and the number and proportion of shares exchanged. Where, however, one company dominates in size and purchases the whole or the majority of the shares, the other company virtually becomes a subsidiary though it may possess a voice in the management of the larger concern.[1] Thus, for instance, Imperial Chemical Industries, Ltd., has classified its investments in three groups, (*a*) investments in subsidiary companies in which it holds over 50 per cent of the shares—this relates to 75 per cent of its investments; (*b*) investments in subsidiary companies in which I.C.I. holds 50 per cent or less, which is the case for one-twelfth of its investments; and (*c*) other investments which constitute one-eighth of the total.

The effects of such interconnections are conspicuous in a double way. Firstly, they bring about a system of financial interlocking which is absolutely novel in the modern history of industrial finance. In German this system is called "Verschachtelung", Schachtel

[1] Cf. *Factors*, etc., p. 72.

meaning " box ", the term probably being derived from an analogy with the familiar Chinese toy boxes which fit one into the other. In English there is no other word than " interlocking " or perhaps " interlacing ". There can be no doubt that such interlocking may give to the companies in question the somewhat dangerous possibility of hiding their real relations. The defects of these rather complicated forms of organization from the point of view of desirable publicity have shown themselves in several of the famous " crashes " following the prosperity period of 1924–9 in Germany, not only in connection with trust-like companies but also in connection with big joint-stock companies, which became entangled in the failures of such interlocked companies as the " Nordwolle " of Bremen and others. Even outsiders could notice the difficulties which judges dealing with such cases must have in getting thoroughly acquainted and conversant with the actual financial structure and " mysteries " of interlocked companies and directorates, with the tactics of exchanging shares between companies or the interlocked domination of works. Here again, such effects, while they should not be overlooked, and should indeed constitute a reason for keeping a close legal watch over concern-finance and for the framing of appropriate measures of legislation, may be largely attributed to abnormal circumstances. The system is not to be discredited because of such failures or of the necessity of " un "-locking, as mentioned above, what does not present a sound basis for permanent financial interconnection. The principal feature remains that the system of interlocking finance affords a way of supplying the capital needed for consolidations and combination to a degree which plain fusion would never be able to attain.

Then there is a second effect of importance. Interlocking has immensely increased the radius of

international ramifications of industrial finance. From among the many examples existing we may quote that of rayon. As already explained, this industry has for some time been a prominent example of concentration in industry. In Germany the leading—and indeed the pioneer—concern was the Vereinigte Glanzstoff, and this in turn became federated with the Dutch "Aku" concern and the German J. P. Bemberg, A.-G., which had long been the only competitor of importance with Glanzstoff in Germany. In Italy the leading position is held by the Societa Nationale Industria Applicazione Viscose (Snia Viscosa), in the U.S.A. by the American Viscose Company and the Dupont de Nemour concern. For some time now there have been arrangements for co-ordinating these giant concerns with the aid of the system of financial interconnection just described. Early in 1927 Courtaulds and Glanzstoff entered into an agreement with Snia Viscosa, which included an interchange of shares. Moreover it must be remembered that before that arrangement the three participants had connections with rayon concerns all over the world. The I.G. Farben, through their Agfa interests, had since 1925 taken an interest in the Glanzstoff and Bemberg companies, thereby acquiring a connection with Courtaulds, which again had a controlling interest in the American Viscose Company, while the I.G. Farben—by its control over the German dynamite concern of Köln-Rottweiler Pulverfabriken A.-G., the Dynamite Company vorm. Nobel and the Rhenish-Westphalian Sprengstoff A.-G.—became directly connected with the English and American Nobel concerns, the former being closely allied to the Celanese interests and the Tubize concerns in France and Belgium, and the latter allied to the second largest rayon concern of the U.S.A., the Dupont group. One only needs to consider for a moment how utterly impossible it would have been to bring about anything like such world-wide ramifications

by fusion or amalgamation of the respective interests, in order to understand the paramount importance of financial interconnection by the system just described.[1]

While the holding principle, the interchange of shares, subsidiary companies, and partnerships have been most important instruments in regard to the financial needs of big units and concentrative industrial organization, the much discussed "community of interests" (Interessengemeinschaft) cannot be said to have served that purpose. This form of commercial interconnection among big companies and concerns consists in mutual arrangements in respect of a common standard of dividends to be distributed and of the exchange of patents and results of research. It undoubtedly has important functions where a closer union of companies, either in the form of fusion, holding or other financial interconnection, is not desired or at any rate not yet desired. It may be the primary stage of co-ordination of interests, and it may have a lasting and decisive influence on further steps in the direction of concentration, as in the case of the community of interests which was the pioneer form of mutual agreements in the German chemical industry. But on the other hand, communities of interest are liable to show their weak side when the companies linked together by such a rather loose form of combination are hit by hard times because an agreement with less profitable companies may become a burden on the more efficient partners, who may then be anxious to withdraw from an agreement which might have been of advantage to all parties concerned in times of rising profits.

To sum up these observations on the finance of big units, it may be said that an entirely new picture of capital supply to modern units in industry has been

[1] Cf. for rayon, Levy, *Industrial Germany*, pp. 89–91, and Plummer, loc. cit., pp. 29–31.

growing up in connection with concentration of industry. We have rejected the view that the " large amount of capital " needed by big concerns would " as such " represent a difficulty in their formation. We have no instance in modern economic development where an industrial venture, when based upon thorough financial calculations and prospects of profits, has been left unexploited for " lack of capital ", simply because an " enormous " amount of it was needed. But quite another thing is the fact that the capital requirements arising out of concentration in industry, with all its consequences of amalgamation or consolidation, redundancy schemes, and programmes of technical improvement, cannot be supplied as in former days of single undertakings of " smaller " scale by the undertakings themselves through some sort of " self " financing or regular credit facilities. This is the new departure. Capital for financing concentration in its earlier and later stages has to come either from " outside " sources that is from promoters, who may form a special class in industrial and commercial life, or from big banks taking a pronounced interest in industrial financiering, or the necessary financial transactions may be carried through by industrial concerns the profits of which enable them to act as financiers not only of their own section of industry but also of those sections which have become related to their own production, nationally and even internationally. And all these possibilities may be facilitated by, if not made conditional upon, the development of a system of financial interconnection which replaces the necessity for one single financial power to be called upon as the supplier of the necessary capital.

Concentration in industry has thus found the necessary capital and undoubtedly will find it, where it is needed, in the future. But the supply of capital has taken other forms than before and these forms have reacted on the connection between industry and

capital. The development has not been based upon the larger requirements of capital by industry, outgrowing the financial strength or credit worthiness of single non-concentrated units, but it has, when viewed from the angle of the financial capitalist, afforded an opportunity for capital to acquire a domination oyer industry, such as had not existed before. This domination may depend upon the different ambitions of capitalists, it may be different in different countries, as, for instance, less developed in England than in Germany or the U.S.A., it may be dependent upon prosperity and depression in industry, but it will certainly manifest itself wherever concentration in industry is going on. For it is this concentration which, partly by reason of its specific requirement of financial capital, partly by reason of the monopolistic chances inherent in or expected from it, will make it tempting for financial leaders or leading concerns to embark on this new domain of industrial capitalism. With the passing therefore of the single-unit undertaking, commercial capitalists have been able to acquire a domination over industry not unlike that which, before the rise of the factory system, capitalist " putters-out " had over the then existing forms of industrial production, that is the small manufacturers and the guilds, from the very moment the latter became unable to " finance " by themselves the requirements of their production.

For a second time in the history of modern industrial capitalism the commercial industrialist is securing domination over industry, either as a personal entrepreneur or by some form of joint stock company, and the manufacturing industrialist or the manufacturing company proper is falling into the background of industrial organization. If a foreign witness before the Macmillan Committee most emphatically declared on that point that " a banker must never forget that he cannot and must not be an industrialist ", and that

he should only be " the adviser in matters of finance " this testimony hardly comes up to the development as it is in practice. The financial " aid " which is to-day required either from banks or other organizations lending capital to industrial concerns is much too heavy and much too much coupled with specific financial tasks and programmes to allow capitalists to remain in the position just of an interested onlooker and adviser, and besides, as we have been able to show, it is not even the aim of the modern powers of industrial finance to be limited to such rather passive functions. There may be differences. One may be entitled to speak in some cases of " commercial industrialists ", and in others rather of " industrial commercialists ". But this hardly changes the problem of the financial dependence of modern concentrative industrial organization. The Macmillan Report, while asserting that British industry had still maintained " its independence of any financial control " by banks was anxious to state that the big British industries would be " at a disadvantage " in competing with foreign rivals, " who are generally financially powerful and closely supported by banking and financial groups, with whom they have continuous relationships." [1] The late (first) Lord Melchett, who combined a profound knowledge of technical development with a remarkable financial experience, had written in 1927 almost to the same effect: " I sometimes wonder if the British banks will be able to maintain the attitude they have displayed in the past—that it is no part of their duty to take any interest in the direction and management of industrial affairs. They are more and more involved by very large overdrafts in industries which are in a very parlous position. They will either have to incur very heavy losses when those concerns go into liquidation, or they will have to take into their own hands a redistribution and reorganization of

[1] Cf. *Macmillan Report*, pp. 162, 165, 168.

those businesses. . . ." As our remarks about the reconstruction of United Steel go to show, present developments seem likely to fulfil these prophecies, which Lord Melchett was in his days deducing from the cases of Vickers, Ltd., and Armstrong Whitworth, Ltd.[1]

[1] Cf. Sir Alfred Mond, *Industry and Politics*, 1927, p. 233.

PART VI

THE NEW SITUATION

§ 21. *The Problem of Monopoly—(a) Price Policy*

The issues evolving out of concentration in industry have for a great number of years—indeed for much too long a period—been identified with monopoly. It is not so very long ago that so able an English economist as Professor Gregory, of the London School of Economics, declared in a speech: "All industrial combinations begin with a heavy financial charge which they get back from the community in the form of higher prices or from shareholders in the form of watered capital. The trust movement hinders the development of industry." [1] Looked at from this narrow viewpoint the concentration movement in industry would simply represent the evil effect of a new system of industrial exploitation, of financial greediness, and if, as Professor Robbins believes, the dominant position of cartels and trusts has been brought about mainly by patents, tariffs, and natural monopolies, it would not even be difficult to destroy this dangerous economic epidemic by some drastic policy.

We have tried to show in this book that the concentration movement in industry has to be carefully distinguished from the movement towards monopoly. Concentration of industry is indeed the nucleus of latent or real monopoly organization, but the monopoly complex only represents one of its many sides and by no means the most important. While monopoly may emanate from concentration in industry, concentration in industry may, without leading to anything like actual

[1] Cf. the *Free Trader*, December, 1926, p. 304.

monopoly, represent a permanent modern feature of industrial organization having a much broader structural significance than is possessed merely by one of its forms as represented by industrial combination.' We have just given a prominent example of it in discussing the fundamental structural changes involved by concentration in industry in regard to the interrelations between finance and industry. The problems of rationalization and of the horizontal or vertical combination of units which is involved by concentration in industry, and also the problem of the many new commercial forms of the industrial company which have emanated from it, may be entirely distinct from the problems of quasi-monopolies in modern industry, for having regard to the actual facts it would be perfectly absurd to assume that all these structural changes, revolutionizing the organization of industry in our days, have been initiated simply for the purpose of forming cartels or trusts.

Yet the first impetus to a discussion of the new problems implicit in these changes came from a corner of the monopoly complex, as the development of cartels and trusts was probably the most conspicuous effect of the development—the fundamental laws and principles of concentration being far more difficult to grasp and analyse. Besides "fighting monopoly" was a popular topic, especially in England, where combinations were most likely to be viewed not from an organizational viewpoint but mainly from that of infringed individualism. So it came about that more attention was paid to partial effects of a new structural development, than to the development itself. Here, again, it was the price problem which attracted the main attention, since monopolies were stigmatized with the idea of unduly raising prices wherever they appeared.

It is important to note, in connection with the problems of the monopoly complex here under

discussion, that the price issue has lately been playing, if any, only a secondary role. Apart from certain exceptional cases—such as in the early history of British soap mergers—it has so far been only when the Profiteering Acts were in operation during the period of very high prices soon after the War that amalgamations and agreements were viewed with strong suspicion. Since then there have been official inquiries such as the Committee on Industry and Trade, which dealt most exhaustively with combination in its special Reports often quoted in this essay, and in its final Report of 1929; there have been reviews of the actual development of combination in many branches of British industry, like that of Mr. Fitzgerald, or that of Professor Alfred Plummer, who describes the international interlacing of British combines up to 1934 as being without evidence of cases of that kind of "price raising", which was considered to be or to become the greatest "danger" in the new wave of monopoly which was spreading over industrial organization. There are a good many reasons for this changing aspect of monopolist price policy. First of all, time has shown that the monopolist position should not be overrated by the public or the industrial consumer, nor overstrained by the monopolists. Cartels and trusts had to learn, from a mere egoistic point of view, to respect the many limits set to their quasi-monopolist domination, as by the possibilities of new, if even less efficient, competition through the development of new works made profitable by monopoly prices or the re-entry of "reserve" undertakings in times of rising prices as previously described, or further by the elasticity of demand reacting very promptly upon enhanced price-levels or by the stimulus given to the development of new competing processes of production, or by the introduction or wider dissemination of cheaper substitutes, and other facts, the ever latent existence of which is now carefully considered

by associations and trusts in contrast to the pioneer period of their development. Such factors might be exhaustively studied by way of the experiences of the first English associations in the salt trade or those of the German potash syndicates. When in 1920 an English Report on the Tobacco Industry came to the conclusion that the combine " has been compelled to maintain against its competitors high-quality goods at the lowest possible prices ", while it " has it in its power practically to dictate the price at which the great majority of consumers purchase the common standard lines of tobacco ", this need not involve a contradiction, as Mr. Fitzgerald contends,[1] for what the Report apparently meant was, that even within the limits set to the trust price policy by outside or new competition its aim had been to seek low prices, probably out of consideration for the elasticity of demand.

But the growing cautiousness of combines in regard to their price policy does not exhaust the causes which have made this topic of monopoly less paramount than was at first to be expected. There should be not the slightest doubt that combines of any sort are able, at least for some time, if not permanently, to raise prices above the competitive level. To doubt this for a moment would be to misunderstand one of the commercial purposes of combination. But such a statement means very little in regard to the economic justification or condemnation of a price policy of a combine. So long as we are not able to make any definite statement as to the real usefulness of this or that level of prices all criticism of a trust's or cartel's price policy must be regarded as arbitrary. The present time provides ample proof of this. With the " Great Depression " the level of prices of the principal products and especially of the key products has sagged so much, that a gradual lifting of this level is generally

[1] Cf. loc. cit., p. 147.

accepted as highly desirable. This has nothing to do with any kind of " reflation ". It simply means that the effect of an unprecedented over-production should be mitigated and that agreements between manufacturers may be regarded as just as useful an instrument for that purpose as trade unions in regard to the undercutting of wages. But this is not the end of the problem. If " prices " are really acknowledged as serving certain purposes of economic policy, the question arises how far a rise may be considered as useful and how far not. We know the objections that are made against the bolstering-up of less efficient producers by cartelistic policy. But there may, on the other hand, be objections against letting weaker firms go to the wall simply because they cannot stand a " too " low level of prices. The demarcation is difficult. And in so far as this is so it is difficult to judge the propriety of quasi-monopolist price policy.

This leads us to the final point in the explanation of why quasi-monopolist price policy has not been so acute a topic of late as would have been expected when cartels and trusts came to domination. Very sharp fluctuations of prices, a sudden rise in prices as compared with other goods—we may think of the pepper gamble in the first months of 1935—may easily be attributed to monopolist speculation, and may be swiftly condemned and crushed. But this is not the point. Quasi-monopolies will usually refrain from such a policy. The question remains whether the price-level influenced or controlled by their power, even within a relatively small range of fluctuation, is too " high " or not. But how can that be decided? To draw conclusions from a mere rise in prices would be dilettantic. If a price rises from 100 to 120 within a trade controlled by a combine or combination, quite apart from the possibility of other factors besides monopoly having influenced the rise, one does not know exactly whether the 100 level was

at all remunerative or at least remunerative to all the producers involved.

A thorough and generally very complicated calculation of costs has for some time been regarded as the way out. But such calculations have seldom led to decisive results. In many cases they may be antiquated before they are ready for publication. It is, for instance, amusing to note that according to Mr. Fitzgerald's findings the price of soap in England in 1926 was actually below what would have been reasonable, according to the costing schedules made up by a Committee in 1920.[1] And again the question arises, what "costs" are to be counted. There are many instances in modern industrial organization—we have been able to give some instances—where the big firms by reason of a burden of over-capitalization, which has to be squeezed out gradually, are cumbered with higher costs than smaller independents producing a much smaller share of the whole national production of the branch of industry concerned—we have only to recall what we said previously about the competitive position in the English cotton-spinning industry. Will the additional costs arising out of such over-capitalization beyond the technical costs of production have to be disregarded in determining what is to be considered a profitable price? It is significant that in Germany the well-known Enqueteausschuss, a Committee appointed to investigate industrial conditions and which published its results a few years ago[2] (1929–1930), was not able to arrive at anything like a clear picture of the costs of production. A special investigation into conditions in the iron and steel industry had to confess that "owing to the differentiation of works, the lack of uniformity in numerous costing elements, the result showed discrepancies up to 100 per cent."[1] It was also expressly stated that it seems doubtful whether the

[1] Cf. Fitzgerald, loc. cit., pp. 63–4.
[2] Cf. Hermann Levy, *Industrial Germany*, p. 218.

costs of closing redundant plants should be included in calculating " costs " of production. This may seem quite reasonable from the accountant's point of view, but it will hardly be likely to make any difference in the discussion of costs and prices, as it will always be argued by the producers that the outlay for rationalization, however unprofitable it may have proved after 1929, must in some way be compensated by prices, and it would hardly be possible to dispute that such expenses as are incurred by rationalization or shutting down inefficient works should be taken into account to justify a certain level of prices.

One may say that the difficulties of measuring the " righteousness " of a price-level have been increasing still further of late. Not so very long ago comparisons of the quasi-monopolist price-level of protected goods with world market prices offered some measure of comparison. To-day, quite apart from the fact that the mere statistical and technical difficulties of comparing international prices (as to quantities delivered, quality, measurement, and forms, terms of delivery, conditions of payment, freight, " extras " and rebates to be paid, there may be an inequality of conditions not exhibited by statistical comparison), have become more clearly recognized with the progress of thorough economic investigation, international combines may influence the international price-level, and so the justification of a certain " inland " price-level, resulting from " world market price plus duty and freight ", may become very dubious in comparison with former days when the " world market price " was considered as the expression of the lowest possible standard of price, the resultant of international competitive conditions. Thus, while the world market price, where it is itself affected by quasi-monopoly, may be " too high " from the point of view of costs, in cases where the world market price is affected by a permanent system of dumping it may be considered to be too

" low " from the point of view of normal costs and distribution.

All this explains the difficulties and even the futility of price investigations with the purpose of " searching " monopoly, and it also explains why the interest in regard to monopolist price policy has undoubtedly been less than would have been expected considering the rapid and conspicuous development of monopolies. The interest in the price policy of cartels and trusts, except of theoretical discussions, will be limited to cases of very flagrant price enhancements, where the rise may be considered unjustified and hurtful to consumers or to the subsequent stages of manufacture by reason of indisputable facts and of its very recklessness. But such cases are certainly exceptional, especially in a time so watchful of important economic events, and the other cases of a differentiated, cautious, and tempered influence of quasi-monopolies on prices are the rule.

§ 22. *The Problem of Monopoly—(b) Trade Practices*

There is, however, another problem connected with the widening domination of monopolies which deserves increased attention. It belongs to that activity of industrial combination which is occupied not with the exploitation of its existing position but rather with that of building up and fortifying its power. We refer to trade practices. While we do not think it advisable to extend, as Professor Macgregor does, the definition of trade practices to the creating " in the market of local or temporary conditions of prices on which all business could not be profitably conducted "—as this is in fact a function of monopolist price policy and has, like dumping, always been considered as such —we may usefully accept the other part of his definition that " trade practices are methods adopted by private enterprises to limit the access of producers to the

consumers or of consumers to other producers ".[1] Trade practices aim at building up or strengthening the position of industrial combination, especially large concerns or combines, by using " trade " as a new business element to be monopolized, and helping by such monopolization the power of monopolies in the producer's sphere. It is clear that a producer's quasi-monopoly is greatly enhanced when it succeeds in cutting off outside competition from the possibility of selling to the recognized wholesale traders in the branch, or again when these traders agree, by forming an association, to enforce certain rules upon retailers binding these to buy from nobody else than from their association. It may be that such agreements deal a final blow to smaller independent producers. But there is no doubt that the " monopolizing " of trade by such practices is based upon some sort of previously effected concentration in industry.

In general such trade practices have taken two forms. Either they consist in exclusive agreements binding traders not to deal with anyone else than the combine or cartel, agreements which are so much the more easily secured by combines, when it has become a necessity for any important trader to be supplied by them. Or some similar effect may be reached by the granting of rebates to loyal traders. There are, indeed, a great many varieties of such practices to be found. Thus, for instance, all manufacturers in the boot and shoe industry are members of the Incorporated Federated Associations of Boot and Shoe Manufacturers, a body not regulating output or fixing prices, but arranging national terms of trade and conditions of sale. A very large proportion of the members of the Federation lease boot and shoe making machinery from the British United Shoe Machinery Company, which is a subsidiary of the American United Shoe Machinery Company. The

[1] Cf. Macgregor, loc. cit., p. 57.

Company refuses to sell its machines, over which it has a monopoly based upon patent rights, and it agrees to lease the machines only on conditions aiming at the suppression of the use of machines of other makes. The Council of the Small Tool Manufacturers, a body controlling about 75 per cent of its trade, has made arrangements with the High-Speed Steel Association under which its own members receive discounts on exclusive buying from members of the Association and in turn allow discounts to the Ironmongers Federated Associations in return for exclusive purchasing. The National Light Castings Association, a very strong English cartel, founded in 1911, has a system of deferred rebates in operation with the organizations of the builders merchants conditional upon exclusive dealing and strict conformity with the price list.[1] A Government Committee of Inquiry reported, in 1920, that the Electric Lamp-Makers Association granted special rebates for "exclusive trading". Owing to this system the non-associated maker, it was stated, could sell his goods without hindrance only to Government departments and other large buyers.[2] These are some among the many existing examples.

Sometimes traders were strong enough to assail attempts on the part of combines to establish exclusive trading, as in a case of an English dyers combine; but experience shows that industrial combinations may then find arrangements which are not quite the same as exclusive clauses but may lead to the same effect.[3] In the U.S.A. it is a long established experience that "competition in terms" may have very monopolistic effects. The Commissioner of Corporations, in a report to Congress, alleged that the use of long credits by the International Harvester Company was an

[1] Cf. for these instances, *Factors*, etc., loc. cit., pp. 76 ff.
[2] Cf. Fitzgerald, loc. cit., p. 124.
[3] Cf. Fitzgerald, loc. cit., pp. 19–20.

important factor enabling that combine to wrest trade from its rivals.[1] It is the American example which shows that a standardization and uniformity of trade practice is following the standardization and uniformity of certain products, which again is the consequence of a marked concentration in those branches of industry. Trade associations are so much the more easily formed if they are concerned with standardized articles. The great interest which American trade associations have of late taken in the problem of standardization [2] is not only to be explained by the recognition of its possible economic advantages, but is to be considered as paralleling the concentrative tendencies in the sphere of industrial production by bestowing on such associations a much greater power and furnishing a possible link between the monopolist organization in industry and that of trade.

In Germany as well the method of using trade practices as a further means of monopolization has been playing an important role. This can be seen from the stringent rules which bind, for instance, dealers in rayon—federated by agreement to the sales bureau—to trade exclusively in the produce of the syndicate (Viscose Kunstseide Syndikat) and not to sell it to any other dealers. Boycotting clauses, black-listing, or selling at higher prices to those dealers not willing to join the exclusive agreement on the one side, loyalty rebates and bonuses to those who are proved loyal on the other, have been quite common in German industry. In July, 1934, an interesting agreement was reached by the manufacturers of radio sets and loud-speakers. The parties to the agreement have consented to sell only to traders or bodies qualified to trade by the so-called Wirufa conditions, an elaborate code of trade rules, and by this a very stringent

[1] Cf. Kirsh, loc. cit., p. 215 and *passim*, for many interesting examples of the monopolizing effects of " trade practices ".
[2] Cf. Kirsh, loc. cit., p. 208 ff.

monopoly is effected. The most prominent field for such agreements, however, has been the German iron and steel industry, partly through direct pressure by the steel cartels. The " independent trader " has almost disappeared and his place has been taken by the " Association " dealer, the Verbandshändler. In tubes, for instance, the Stahlwerksverband secured a very stringent agreement with the " associated " dealers binding the latter not to sell any material to outsiders without the permission of the cartel, while the cartel on the other hand agreed to sell the syndicated products, which could be sold by it directly, to no others but associated dealers.[1]

In reading Professor Macgregor's book, one might be led to the conclusion that German legislation has been very active in suppressing such systems of trade practice. Indeed, the much quoted Decree against the Abuse of Economic Power of 1923 contains important decisions as regards what is called " Organisationszwang ", coercive measures of organization. But it leaves many decisions open to interpretation. It is very difficult indeed to decide—if sanctions are to be applied to monopolist agreements at all—what kind of " coercion " is really oppressive and an " abuse of economic power ", when the manifestation of such power is considered in the light of general economic welfare. In cases where a co-ordination of the interests of traders might appear to be desirable, just as it may so seem in the case of producers' associations, a law, making trade practices of the kind mentioned unenforceable, or even unlawful, might decidedly weaken the desired co-ordination. At any rate, the many trade practices in use since 1923 in Germany do not indicate any harsh opposition of German law or courts to " exclusive trade agreements ". Indeed, an official announcement of the German Viscose Rayon Sales

[1] Cf. Levy, *Industrial Germany*, for rayon, p. 193; radio, p. 194; steel, pp. 198–9, and for other instances *passim*.

Bureau was recently able to call the attention of its members to the fact that according to the ruling jurisdiction of the Reichsgericht buyers would make themselves liable to the payment of damages if they were to infringe the very stringent exclusive rules of the Bureau.[1]

The problems of monopoly arising from this side of modern concentration in industry should be considered as being of the widest importance. The question of trade practices may in the near future, and with the widening radius of industrial concentration, become a very hotly debated topic in English economics and it will certainly be of a more acute character than the monopolist price problem. There is here a lack of such checks as exist in the case of regulation of prices. Trade practices may indeed lead to wholesale and final monopoly. They may do away with " independent " trade. Whether they should be suppressed, however, is not a problem limited merely to their own sphere of interest: it is part of the broader question as to how far outside competition or " weaker " competitors should be protected by the State against quasi-monopolist domination or left alone in their in all probability and eventually hopeless struggle. On this point some general remarks will have to be made on a later page.

§ 23. *Rationalization and Planning*

We may note with satisfaction that at least the problems of monopoly as formerly represented by the question of price policy and, more recently and with somewhat greater justification, by the question of " trade practices ", are now in general clearly distinguished—or perhaps better distinguishable—from the general and fundamental conditions of concentration

[1] Cf. Hermann Levy, *Industrial Germany*, pp. 147–150.

in industry of which they are only one sector or, dynamically seen, one possible side of evolution.

The cause of this change or improvement of our insight is undoubtedly to be sought in the fact that other effects of concentration than monopolist ones have come into prominence. Economists must not, however, be blamed for not having seen this before. There have been, from the very beginning of modern consolidations, a number of economists who have been eager to point to the "dual" face of the movement, the one which might lead to monopoly, and the other which might be active in bringing about greater economy by reducing costs.[1] But just because the concentration tendencies in industry were mostly identified with monopoly organization such "theorists" were frequently ignored or even criticized for accepting arguments which bore the suspicion of being merely an attempt to "whitewash" on the part of combines with bad consciences. What was the use of any technical improvement effected by combination, so it was asked, if the final aim of combination was to raise prices in spite of such improvements and give the consumer no benefit? Here, again, the apprehensions as regards price policy overshadowed any possible acknowledgement of the progressive functions of combination. And as the cartelization movement was mixed up with the amalgamation movement, both being taken simply as "forms" of monopoly, with like effects, such argumentation could easily be verified by the fact that in a great number of cases associations, cartels, and syndicates were not furthering the process of concentration in industry, but were in fact offering a shelter to weaker competitors and sometimes even giving an impetus to less efficient new-comers. We have stated before that cartels and agreements were

[1] Cf. Arnold Wolfers, loc. cit., p. 10 and *passim*. One of the first to point to the "progressive" functions inherent in concentration was Dr. Schacht in an essay in the *Preussische Jahrbücher*, 1902.

and are in many cases the forerunners of trustification, that they anticipate monopolistic possibilities that are latent but not yet possible of realization through the tendency towards concentration. In some cases they have brought an advance in the direction of consolidation by the system of quota-purchase, and in recent times they may even have been active in promoting a more economical working. But all this has not been exactly the rule. And because such was the case, combination was placed in direct contrast to the possibility of effecting greater economy. The former was considered as a hindrance to the latter. That this reproach was certainly justified is proved by the fact that the movement towards concentration within the range of associations or cartels has made further progress. Concentration and amalgamation, far from being merely another form of the same organizational purpose, have made great strides within and, one may say, in spite of cartelization. Whereas so far as quasi-monopolist aims are concerned both cartels and trusts might have the same desires, in regard to economy their aims and "policy" seem in general to differ essentially, and here again it becomes patent that "combination" should not be confounded in its effects with those of concentration.[1]

When the possible services in the way of greater economy inherent in concentration in industry became better recognized and indeed distinguished from that of monopoly, combination changed in England from being a much attacked object to being a sort of *enfant gâté* of economic policy. Big units and consolidations

[1] Cf. *The Final Report of the Balfour Committee*, p. 179: "Such a salutary attitude, however, towards the problem of rationalization is not universal among combinations, which have sometimes maintained, instead of eliminating, surplus and inefficient plant, relying for their profit not on greater efficiency and lower costs, but on the exaction of higher prices from the consumer by the exercise of monopoly power. It is on this last-mentioned feature of combination that critics both in Great Britain and still more in America have concentrated attention, sometimes to the exclusion of the very valuable economic results attainable (and often only fully attainable) by some form of combined action."

of all sorts were considered as necessary for that system of " rationalization " which seemed to promise some way out of world economic depression. In fact what was now frequently styled an innovation emanating from concentrative units should long since have been recognized as the quite ordinary consequence of concentration in industry, as could have been learnt from early facts connected with British associations such as the Calico Printers Trust, founded in 1899 with many objects which to-day would be called " rationalization ", the Industrial Spirit Supply Company, and many others.[1] As a " principle ", rationalization was certainly not new. It simply meant the application of more economical methods by technical improvements, especially the introduction of more efficient machinery, by unifying and increasing mass production and distribution and thereby effecting organizational economies. " Rationalization " was in many instances not much different from what had traditionally been called simple technical progress. But after the War and especially between 1924–9 it had vastly increased its significance by reason of special world-economic circumstances. The start was made in the U.S.A., where credit inflation had brought an unprecedented era of technical " wonders "[2] while in Germany, which was being overfed with foreign money, while reparation payments were inducing an increase of exports, the American example found a willing disciple. This tendency was greatly exaggerated by the influence of certain economic writers, who, like Professor Bonn and many others, tried to prove that the American miracle should set an example to the whole world not only in respect of " rationalization ", but also by bringing about a new system of better distribution of the " social

[1] Cf. Hermann Levy, *Monopolies*, pp. 257–8, 335, 340 ff., and *passim*.

[2] Cf. Hermann Levy, " Die Wirtschaft der Vereinigten Staaten und die Weltwirtschaftskrisis," *Weltwirtschaftliches Archiv*, 1932, pp. 203–232 for full details.

product ".[1] It may be well to remember that tendencies of this kind were not quite unfamiliar to English industrial development of those years. In 1926, for instance, a very learned book was published by Bertram Austin and Francis W. Lloyd, to which Sir Walter Layton wrote a very persuasive preface. The book, entitled *The Secret of High Wages*, " endeavoured to explain to industrialists and workers alike the reasons for the American economic wonder and attempted to show, although the conditions may be somewhat (!) different, no unsurmountable obstacle presents itself to the attainment of a 'British economic wonder'." In this case the much lamented reluctancy of many British industrialists has proved a boon to English economic welfare. When in 1931 the Macmillan Report stated[2] that " it must be admitted that in Great Britain the process of 'rationalization' has not proceeded as rapidly as in some of the principal competing countries " such a statement, which before 1929 would probably have evoked much comment, might now be read with some sort of alleviation. Things had taken a somewhat different form than had been expected. Rationalization, so far as it meant larger output, though at diminishing costs, implied, if it was to prove an economic and social benefit, a process of compensation; the bigger output and the cheapening of its products was based upon the assumption of greatly increasing demand—which had been artificially enhanced in the U.S.A. by a wider application of instalment selling—when, however, this demand did not arise, the process of automatic compensation failed; the vastly increased amounts of goods were found to be unsaleable at profitable prices with the onset of the world economic crisis, and the production apparatus, though technically " a wonder ", soon represented in practice largely surplus capacity of a

[1] Cf. for details, Hermann Levy, *Industrial Germany*, p. 211
[2] Cf. loc. cit., p. 179.

most disastrous kind. Rationalization was followed by the nightmare of over-rationalization.

But technical progress, so far as it had been effected by massing production into larger units by combination, horizontal, vertical, and the other forms described, had brought concentration into the limelight of economic discussion. The rationalizing effects of it were now acknowledged, and although, as Professor Macgregor put it, " earlier economists . . . rode the horse of rationalization harder than the pace of industry could keep up with," [1] and although one may agree with the same author in his laconic verdict that " we ought to smooth the fluctuation of thought ", there was no reason to doubt that, given certain compensatory circumstances, rationalization by the big unit might be absolutely in accordance with the necessities of modern industrial organization. And besides—the new swing of the depression seemed to make one part of rationalization by big units even more advisable. While the crisis of 1929 was undoubtedly a warning signal as regards technical " improvements " leading to a much greater output in industry as a whole, it seemed to be so much the more urgent to " rationalize " in view of the differentiations still existing in the efficiency of the single units. Thus the concentration principle came again into the forefront of industrial topics. Renewed depression, which slowly gave way from 1933 onwards only—and then not in all industries —to improvement, has strengthened the desire on the part of those interested in economic policy to see concentration in industry used as an instrument for bringing about more uniformity in the single units of production.

Here, however, a difficulty arises. We gave an example of it when discussing certain aspects of consolidation in the English cotton textile industry. Rationalization by concentration of units has in many

[1] Cf. Macgregor, loc. cit., p. 36.

cases been costly; it has implied the purchase of less efficient works, a large capital outlay, and sometimes over capitalization. "It is plain from the information before us," so states the Final Report of the Balfour Committee,[1] "that some of the undertakings which have been most 'efficiently' equipped in the absolute (that is the technical.—H. L.) sense have been least capable of competing under conditions which have been prevailing during the difficult post-War period, while among businesses which have best held their own in that period have been not a few which from a purely technical point of view have been markedly inferior to their less successful competitors." This statement is remarkable. But it should not be exploited against the fundamental laws implicit in the modern concentration of industry. Even if this concentration has been overdone, there will be, so long as we believe in a return of normal economic conditions, no return to much smaller units, although there may be, as our story shows, examples of necessary decentralization, unlocking and unlacing, where the concentrative process has been carried further than the economic conditions would have justified. But it must be doubted whether it is cautious economic policy to try to use "concentration" as an instrument for remedying those differentiations of units of production which an over-driven concentration has brought about. Such a way might prove a rather dangerous "cure".

While some reluctancy has undoubtedly arisen in the last few years in regard to rationalization as a desirable force of industrial reconstruction, so far as measures of rationalization would again increase production, attention has been concentrated on a possible feature of "rationalization", which is commonly called "planning". Planning may have a very definite and a rather complex meaning. A planned economy,

[1] Cf. loc. cit., p. 181.

such as is practised in Russia with very doubtful success, even making allowance for the abnormal economic and political conditions of that economic territory, is certainly not what is meant when "planning" is spoken of in England. In this sense, then, it can be left outside our considerations, but it should not be forgotten that a theory of wholesale or full State Planning has found its way beyond the Russian borders, for well-known German economists, like Professor Werner Sombart or Professor Emil Lederer, have earnestly been advocating wholesale Planning, though not exactly on the Russian system, yet as an entirely novel and comprehensive reorganization of industry.[1] Both authors have insisted on the idea that "planning", if carried through at all, must be "totalitarian", "partial planning being a contradiction in itself" according to Sombart's theory, and the planning experiment of President Roosevelt points in the same direction. Of course, by total planning it is not always meant that the whole national economy should be at one stroke subjected to it, but that at any rate branches of industry or sectors of economic activity should adopt planning wholesale. In England planning has also been discussed in part in a somewhat imaginative way, both planners and anti-planners taking the existence of a planned industry for granted and then trying to deduce from such anticipated conditions of industrial organization what to them would seem its advantages or disadvantages. Even so thoughtful a paper as the *Manchester Guardian Commercial*, in a series of articles on the Economics of Planning published late in 1934 and in January, 1935, built up its deductions, not upon the actual planning possibilities in English industry but mainly upon a fictitious idea of an existing planned industry the effects and "goods" and "evils" of which were to

[1] Cf. Werner Sombart, *Die Zukunft des Kapitalismus*, 1932, pp. 20 ff., and Emil Lederer, *Planwirtschaft*, 1932.

be discussed.[1] There can be no doubt that this kind of discussion of planning can be conducted and carried on without limit, but it will hardly be of more than, at best, Utopian value.

But there are others who are interested in the planning idea from a viewpoint which is better adapted to the actual practical needs of present industrial organization. Their definition is not so direct and simple as that of wholesale planners, on the contrary it seems that these " practical " planners are rather trying to avoid a strict line. We do not want to be more popish than the pope, but if a rather cleverly written leaflet, edited by *Political and Economic Planning* (PEP), contends that " Positively planning may be defined as the working of a number of organizations in conjunction with one another for some consciously accepted end ",[2] such a definition seems to be very vague and hardly to the point, and it is only natural that it is at once admitted that " in this sense planning has always existed ". But what then *is* the new thing in planning ? A " plan " taken in contrast to indefinite and even reckless action is to be considered as a means of laying down the principles of action ahead. Because economy in every part of the world has lately been shaken by the disorganization of supply and demand the idea has arisen of securing a better balance between demand and supply by conscious and thoughtful control either of production or of distribution or of both. In fact it is greater stability of the conditions of production and demand which is aimed at by " planning ", and in so doing planning is the opposite of a system of economy which leaves this balance to be effected by " automatically " working invisible and uncontrollable forces.

After all that has been explained in this essay, there

[1] Cf. *Manchester Guardian Commercial*, 16th November, 1934, 7th December, 1934, 30th November, 1934, 25th January, 1935, and other issues.

[2] Cf. No. 35, 9th October, 1934.

should be no doubt that large units and concentrative organization in industry contain a pattern of planning. Indeed, their experiences and aims may be regarded as the cell of the planning idea. Concentration of units, being based as it is upon mass production, means greater unification, standardization, and simplification, while combined units have in their turn tried to foster this tendency by their special production programmes, and this tendency towards unification of production has again been active in linking up production more closely with demand. Cartels and associations have aimed at a greater stability of prices. Big units have taken up organized research work instead of relying upon accidentally occurring new inventions and discoveries. Big concerns, instead of leaving the future to itself, have inaugurated a study of markets, in order better to balance production programmes with the vicissitudes of fluctuating consumption. All this is in the direction of "planning". While "planning" certainly includes both functions—(*a*) of regulating production according to certain stabilized and purposely drawn up programmes, if possible for whole branches of industry, and (*b*) of adapting these programmes to market conditions, the short and long trend tendencies of which must first be studied and possibly influenced—it may be said that the latter function will probably be the most important. It is the knowledge of markets which should and probably will precede the programme of production and be the essential starting point of planning. This particular aspect was fully discussed by the German Industrial Commission of 1927–9. It was expressly stated in one of the final Reports of that Commission [1] that there had been enough experience to show that cartels and huge concerns have shown a progressive attitude not only towards technical rationalization and standardization, but also in the matter of better

[1] Cf. *Verhandlungen und Berichte*, part iv, 1930, Kartellpolitik, p. 24.

commercial and distributive organization. The Report especially mentioned that it ought to be (and in many instances already was) an important task of cartel policy to undertake a continuous analysis of market conditions, and to try by this method to discover a basis for " the commercial practice of its members ". These aims, so the Report concluded, should in no way be considered as requiring restrictive measures on the part of the State, but, on the contrary, they should be regarded as meriting " constructive " support.

We have instances enough of huge concerns that have been in a position to survey market conditions and to adapt their planning programmes accordingly, in quite a different manner from anything that would have been possible for the older type of units of production. For it must always be a condition of such methods of business forecasting that the companies which attempt it should really be handling a business big enough to allow them to form general trend-like conclusions, and it is certainly not accidental that hand in hand with the development of greater mass production of industries all over the world there has emerged a new study of economic conditions, officially conducted or supported, called " Business Forecasting " or in German by the somewhat more academic but also more expressive term of " Konjunkturforschung ". In the days of a much greater splitting up of production, of a greater differentiation and the incomparability arising therefrom as regards figures and trends, such attempts would have been absolutely futile. As regards the private sphere of such activities a most striking example of this can be found in the organization of business forecasting by the General Motors Corporation, which consists in a most elaborate method of surveying market conditions of sale, with a " divisional index " for various departments and technical units, " normal mortality curves," studies of the " second and third hand markets ", " monthly and financial forecast," etc.

Of course, it will not be disputed that these systems of planning are in many ways due to the unique structure of the American motor industry and the dominant position of firms like General Motors or Ford. But though these systems may not be or have not yet been within the range of European organizational conditions in the motor industry,[1] they may be taken as a sort of ideal type of the planning results possible in concentrated industry.

In fact everywhere where such concentration exists planning will in some way or other be facilitated. It may take very different forms, but the basic conditions will always be the existence of a large and uniform market. There should be no doubt that concentration is leading to a greater stability of market conditions and therefore to increased possibilities of surveying them. An industry which, as we mentioned before, showed marked concentration from early days, is that of the manufacture of steel rails. It has always been nationally concentrated in a few establishments; it had to do with a more or less standardized product, the demand for which could be estimated in a comparatively easy way. It was one of the first to be cartelized, nationally and internationally. It is, however, certainly not accidental that just here there should have been a striking development of stability of prices such as is hardly to be found anywhere else. In the U.S.A. from 1902 to 1913 the price was 28 dollars a ton and again from 1923 to 1927 it remained at 43 dollars a ton without interruption.[2] In England the price of rails was £8·50 per ton from the end of 1928 to the end of 1934.[3]

We do not wish to pretend that the " reasonableness "

[1] Cf. an interesting comparison of the possibilities of planning in the U.S.A. and Germany as regards the motor industry, by Dr. R. Nimptsch, made for the German Institut für Konjunkturforschung, in 1930, *Marktbeobachtung und Wirtschaftsführung in der Kraftfahrzeugindustrie.*

[2] Cf. *Statistical Abstract of the U.S.A.*, 1928, p. 721.

[3] Cf. *Economist, Commercial History*, 1934, 16th February, 1935, p. 64.

of a price is vested exclusively in stability, but if stability is one of the desired ends of normal economic organization it has undoubtedly been best represented in our days by industries of a highly concentrative structure.[1] Another example may be added. A big company in the south of Germany producing agricultural machinery on a very large scale made the following discovery, revealed by its special bureau of statistical research: whenever the German agricultural credit banks were issuing more mortgage bonds (Pfandbriefe) or whenever the circulation of such securities was extending, the sale of all kinds of machinery increased. The taking of credit by the farmers was a sure sign of the increasing demand for machinery. The company in question, after making exhaustive statistical studies on the point, was able to adapt its production programme to these conditions.

There can be no doubt but that it is an advantage of concentrative forms of industrial organization that programmatic commercial calculations can be made, for the purpose of adapting production to the current demand. When Professor Robbins emphasizes the fact that "under competitive conditions" the price expectations of a business man "are based upon his knowledge of markets",[1] this cannot be considered as anything like a refutation of planning possibilities. For the question remains as to what this knowledge of markets really amounts to. In the days of entirely free competition between a great number of individual firms the knowledge of markets was necessarily "instinctive". In many cases one business man might have a better "flair" for approaching or latent conditions of the market, and he would be the more successful. It is just this kind of "knowledge" which, having led to much illogic and also waste, might be successfully replaced by a more programmatic one leading to more stable results in the long run.

[1] Cf. loc. cit., p. 152.

These being the interrelations between concentration in industry and a new sort of business calculation, it is only very natural in a time of economic depression arising out of over-production not only that the planning system should be accepted by many people as the quite organic outcome of certain conditions and necessities, but that it should be propagated as *the* remedy for disorganized production. If some sort of planning and stabilization, of co-ordination and unification of interests, so much desired in the disturbed state of present industrial affairs, and especially in some big British industries, results from a process of concentration in industry, why not foster, or even decree with State aid, concentration in order to obtain planning? This is the question of the day. Planners in England have been eager to work out a thorough and thoughtful scheme for securing more concentration in industry, in order to secure more planning. It is now called "Self-Government for Industry" and embodied in an Industrial Reorganization (Enabling) Bill, introduced into the House of Lords, before Christmas, 1934, by Lord Melchett and drafted upon somewhat similar lines as the "Self-Government for Industry Bill", prepared by the Society PEP, mentioned before.[1] The object of these proposals is to give compulsory powers to a majority of producers in any industry to enforce schemes of reorganization, "with the general object of promoting greater efficiency, eliminating wasteful competition, and facilitating production, manufacture, and supply of the products of that industry." Such schemes, in so far as they include compulsory powers to form comprehensive organizations, mergers, cartels, or even trusts, are merely what in other countries, like Germany, has been called "compulsory cartelization", and we shall have to say something about them when we discuss the case for State interference in industry.

[1] Cf. also Planning (PEP), No. 26, 8th May, 1934.

When viewed from the economic angle only, and not from that of State or legal expediency, such measures are to be regarded as a new attempt to press upon industry systematically ideas of planning as a wholesale remedy for depression. Herein lies a danger. It will be agreed, and we have given examples of it, that concentration might in some cases be hampered by illogic, by stickiness, and other uneconomic checks. But this fact does not do away with the further fact, which we have tried to impress upon the reader in the whole course and in all sections of this essay, that concentration in industry is based upon certain specific conditions of markets and production, not present everywhere and at all times, but representing the real fundamental conditions for it. One cannot "create" or "make" these conditions, which are in fact the fundamental laws of certain economic and world economic developments. That is why, reviewing, as we have been trying to do, world-wide economic relations, we are able to say why concentration has developed here and not there, why it has been developed earlier here than elsewhere and sometimes not at all. This shows that there is no single pattern for it. While it is possible to draw curves forecasting the sale of agricultural machinery, while big international combines may successfully attempt to adapt their programmes to regional conditions of uniformity, it would probably be hopeless to attempt to plan ladies' gloves or fancy cretonnes. At any rate, this is so if we want to keep the fundamental organization of traditional economics. It might then be not only hopeless, but even dangerous. Planning implies a certain standardization of wants. For that standardization is the keystone of mass production which again is the keystone of planning possibilities. In fact some planners are not far from suggesting that some sort of planning must begin with consumption, that the many varieties of patterns and goods must give

way to more uniform goods in order to enable planning of production, that retail trade must be made more uniform in order to economize costs and overhead charges. It is just the same kind of argumentation as that to which we have previously referred: as concentrated mass demand has been fundamentally responsible for the development of large and concentrative units, why, planners ask, should not large units or centralized bodies of such units be formed to standardize demand?

To this there are several answers. First of all, we may call attention here again to certain results of our inquiry, showing that mass demand was linked up with certain conditions not universally prevailing. Mass demand in the U.S.A. was a consequence of territorial integration, of the necessity of complying with high wages, due to population factors and making standardized home production a necessity if any attempt at all was to be made to compete with European countries. One cannot compare the demand for Fords in America with that for English cotton goods in the home market and abroad. The U.S.A. in spite of their tremendous development of standardized goods have not yet been successful as exporters of highly finished goods, except in specific branches, where labour-saving devices have given them a certain predominance, as in typewriters, motor cars, agricultural machinery, etc.[1] England wishes to retain and to develop further its exports in quality goods. While it might be possible, by putting pressure on consumers or retailers or by stopping "superfluous" differentiation, to standardize English demand to a certain extent, it would not be possible in the case of foreign markets. Wherever wholesale planners have developed their programme they have frankly admitted that, if a standardization of wants were to become general, this would probably mean a greater "equalization" in the purchasing power of the different classes in a nation, but costly

luxury goods could then hardly be produced.[1] This would scarcely be a fair proposition for English industry. One should remember what was very wisely said in the Balfour Report of 1929 that an " essential characteristic of British Industry ", " if it is to meet the changing conditions of overseas markets, must continue to be specialization and adaptability and the production of the highest qualities." This aim cannot be reconciled with planned standardized demand at home. On the contrary a differentiated demand at home for many goods which England exports remains the necessary basis for manufacturers being able to produce such goods in profitable quantities for export.

And there is another point which may be mentioned, and which should dampen down exaggerated ideals of wholesale planners. If planning really succeeds, and it has been succeeding organically in many industries, it must mean or should mean that certain wants are now more economically and therefore more cheaply satisfied than before. This should, under normal conditions, lead to further progress in the differentiation of wants which are made capable of satisfaction as a result of such a cheapening of the cost of meeting ordinary wants. Thus the process of standardizing wants simultaneously and automatically releases other wants which are of a higher level and incapable of standardization. It is in this way that planning, where limited to its proper and organic sphere, acts as a cultural stimulant by creating or allowing the satisfaction of wants which must be satisfied *à la carte* and not by *table d'Hote*. It is therefore necessary to balance most conscientiously the possibility and non-possibility of planning, especially the planning of consumption. Sir Josiah Stamp in a very enlightened address on " The Need for a Technique of Economic Change " has lately expressed this by saying, " the

[1] Cf. Lederer, loc. cit., p. 46.

precise extent to which this interference or limitation on the consumer is to be admitted will determine very largely the completeness of planning. It has yet to be determined statistically out of the total streams of demand what percentage of them have a stable consistency or unalterability in the mass over a reasonable space of time." This is, in fact, what matters, and what ought to be most earnestly considered by planners. *Hic Rhodus—hic salta.*

§ 24. *The Case for the State*

Up to a not very remote period of British industrial development the possible functions of the State in regard to industrial combination, either agreements or trustification, were regarded as being merely those of safeguarding. This kind of duty was related to prices and later on to trade practice. To many people such a " defensive " attitude of the State seemed rather insufficient and even revolutionary, for they were of the opinion that industrial combination should not merely be watched for its possible " abuses " but ought in fact to be suppressed. This kind of attitude, it may rightly be contended, belongs to the past. We have dealt exhaustively with the question why in our days the price problem as related to industrial combination (the manipulations of merely " commercial " pools excepted) has, in general, lost its menacing features, and as to trade practices it is not yet quite clear what line the State should take. As the German example amply shows, it is in fact very difficult for the State to draw a clear line between what must be called " unfair competition " and unfair methods of underselling (as practised by many sorts of devices, as by advertising, gratuities to consumers, etc), and that kind of trade practice adopted by many an industrial combination by way of reserving to itself or its members exclusive privileges with the special purpose of fighting outsiders

and coercing them by such indirect tactics to join the combination. The attitude of the State towards coercive and exclusive agreements will be largely influenced by its general attitude in respect of the usefulness of combination. In the case that the minorities in the trade are to be regarded as of a merely "belligerent" character trying to counteract the desirable ends of combination, though profiting by some of its effects, exclusive agreements may be regarded as instruments for bringing about necessary consolidation and their suppression might be considered as barring the most economic way towards more efficient industrial organization.

A Report, which can hardly be supposed to be biased in favour of big capitalist interests and the suppression of necessary individual economic liberties, the "Liberal Industrial Inquiry", frankly declared: "We think that cases may arise in which it is in the legitimate interests of a trade or industry that a small minority shall be required to conform to the rules which the majority have decided to impose on themselves."[1] Even those like Professor Robbins who have not yet been able to see in industrial quasi-monopolies and their effects anything else than "things that should disappear" and who believe that in fact industrial combination is mainly the outcome of a mistaken protective attitude of the State,[2] should recognize that the meaning of "freedom" is rather relative. It makes a difference whether individual manufacturers are fighting against "oppressive" measures designed to enrich a few at the expense of a majority, or whether they are counteracting the trend of organizational measures adopted by a majority. When Professor Robbins demands that "nothing must be done which will encourage business men to believe that they will not be allowed to go under if they make mistakes or if

[1] Cf. *Britain's Industrial Future*, 1928, p. 99.
[2] Cf. loc. cit., pp. 189–190.

the conditions of the market make necessary a contraction of their industry", he is not, as he believes, taking an anti-monopolist point of view. On the contrary it follows from these postulates that highly efficient concentrative organizations or units are quite entitled to crush weak outsiders, and that a State allowing them to do so by permitting certain exclusive and coercive agreements is not "bolstering up monopoly" but just supporting co-ordinative organization and that, if it were to decide to do the reverse, it would indeed, by nullifying such agreements, encourage those business men whom Professor Robbins does not want to see "encouraged". When early in the nineteenth century trade unions were legalized, this was considered by the exponents of pure *laissez-faire* liberalism as an infringement of individual liberty. Perhaps they may also have regretted, like Professor Robbins in the case of industrial combination, that the market, here that of labour, was now subject to more "inflexibility"! But "inflexibility" and "organization" should not be confused. Suppression of the concentrative forms of industrial organization, which are organically evolving out of concentrative tendencies and conditions of modern capitalism, would mean nothing else than bolstering up the weak against the progressive. It would indeed mean "interference" of a most drastic kind, though it might then be called "compulsory competition".

While this group of problems relating to trade practice will probably become more acute in the near future of British industrial organization, the possible functions of the State in regard to concentration in industry have already grown beyond the confines of merely "allowing" or "not allowing", and of the respective legal measures, and have reached the stage of constructive policy.[1] What is, in fact, demanded

[1] Cf. for an interesting review of many important utterances on this theme, showing the fundamental changes in the attitude towards the problem of protecting "majorities" by State support, Harold Macmillan, *Reconstruction*, 1933, pp. 36, 42, and *passim*.

by the mentioned proposals of " Self-Government for Industry " and Enabling Acts, seems to be nothing else than what has in the German sphere been called " compulsory cartelization ". The Government is asked to take over the function of protecting majorities, by allowing agreements to be drawn up and to be made enforceable over a whole branch of industry. There can be no doubt that such proposals are in accordance with the views of large sections of the British community. " After ten years of vain discussion," so wrote *The Times* in an article on the plight of the British cotton industry,[1] " there is a growing conviction in Lancashire itself that voluntary effort has failed, and that the time has come for some measure of compulsion in the interest of the public."

It is not in the line of this inquiry to deal exhaustively with the problem of constructive State policy in regard to industrial concentration. But certain aspects of it arising out of the essence and forms of concentration, as we have tried to describe them, must be taken into account. After all that we have said about cartelization there should be no doubt that such agreements are not to be regarded as the final stage of the problem of industrial concentration. On the contrary they are to be considered in many cases, and in the early stages of the development of concentration, as mere expedients for the case where amalgamations on a decisive scale are still lacking. It would be erroneous to believe that " co-ordination " in British, industry can be finally brought about by cartels or other agreements. Such agreements may, if supported or even ordered by State action, be accomplished in a relatively easy way, but the problem of concentration is not thereby solved. Under the shelter of such " subordination " new competitors may arise or weak competitors may try to prolong their existence. On the other hand, if the aim of a further

[1] Cf. *The Times*, 11th April, 1934, p. 16.

contraction of the number of units is backed within such organization by " schemes of amalgamation " based on the one side on a certain procedure for buying out or " sterilizing " less efficient undertakings and on the other side on the " granting of licences to produce ", both implying, in the case of a failure of voluntary action on the part of the industry concerned, interference and action by the State, there can be no doubt that such a system creates problems of a most complex kind and demands quite new departures from the traditional economic policy of the State. In fact there would evolve a kind of " concessioning principle " such as was practised in most Continental countries during the mercantilistic period.

The question is whether the State will be ready, especially in Britain, to undertake these functions and to take up the responsibilities attached to them. In the case of the Redundancy Scheme in the cotton industry the question how far the Government would provide, if not the whole, at least a large part of the necessary funds has already figured prominently in the discussions of that Scheme.[1] If the Government were to assume some sort of financial responsibility in such schemes in one industry it might, by establishing a " precedent ", easily be involved in a great number of them and it would have the enormous task of trying to find out where such intervention was justified by the facts and where not. While concentration, as described in the earlier parts of this book, has in general been a matter of forcible tendencies leading to amalgamations and fusions—in many cases by way of the *détour* through heavy fighting and bitter economic struggles, ending with the victory of the one and the defeat of probably a good many parties—" planned " concentration by the State would be subject to quite other principles, as indeed the State

[1] Cf. *Manchester Guardian Commercial Annual Review*, 1934, 1st February, 1935, p. 79.

would have to have regard to certain imponderabilities of " justice " and " fairness " not necessarily involved in the private competitive struggle of industries. But how are these principles to be decided upon? This is the problem which faces state action in the sphere of industrial concentration and which is so much more complicated and delicate than the mere setting up of a framework for mutual agreements of a cartel character. Sir Josiah Stamp very rightly remarks in his previously cited address: " There is no doubt that a highly individualistic society is only possible with ' sudden death ' and healthy bankruptcy." But sudden " death " and " healthy " bankruptcy, we may add, will be quite differently judged if they are sanctioned or even ordered by the State. As to those difficulties which will only arise when the carrying through of certain amalgamations and fusions is actually tackled by the State, one may agree with the *Economist*, which writes in connection with the proposed " Enabling " Act: " . . . it would probably be safer to follow the method of the Coal Mines Reorganization Committee and entrust a special body, created *ad hoc*, with the reorganization of the industry, i.e. with the task of effecting such amalgamations, elimination of superfluous plant, etc., as may be necessary and then leaving the industry, now organized into appropriate units, to work out its special salvation without any powers of self-government." [1] In fact such procedure would not only absolve the State from many risks and responsibilities, which in Britain would for the most part be new, but it would also to some extent prevent the danger of a sort of concentration not yet justified by the organic economic conditions of the particular industry and therefore containing the danger of some sort of " over "-concentration, which might have just as fatal results as has had the " rationalization " craze.

[1] Cf. *Economist*, 2nd February, 1935, pp. 237–8.

Besides there remain a good many other new functions to be taken care of by the State, if concentration in industry increases and expands—especially in regard to those highly important and staple British industries, which have not up till now responded to the claims of combination, i.e. coal, cotton, and steel. These functions will be in the nature of controlling —or at least supervising—prices and trade practice, of becoming acquainted and conversant with all organizational schemes worked out by industries, in which the State may not become a partner but an adviser, and in many other problems which may come within the field of a Central Economic Council. Confronted with concentration the State will certainly not be able to remain a passive onlooker. But in looking at industrial concentration not merely from the one-sided and obsolete angle of quasi-monopoly the State will find it necessary, in a looser or stricter way, to create and maintain a permanent contact with what ought not to be styled quasi-monopoly, but " leadership in industry ". Concentration in industry, if viewed from the wider viewpoint of industrial organization, must give to the private interests concerned a feeling of public responsibility, which will certainly not annihilate commercial egoism, but will set to it certain limitations. In fact, as the German experience goes to show, after some time of cartelization a " Kartellsitte ", a moral code of cartel policy, may develop, which will pass beyond the confines of single industries and become a general pattern.[1] Cartels, and also big concerns dominating an industry, may become regarded as a kind of " representative ", though private, organization of the industry, and some sort of moral responsibility will develop in the " leaders " of such organizations. Mr. Harold Macmillan, M.P., is perfectly right when, in his

[1] Cf. Hermann Levy, *Industrial Germany*, p. 223.

essay on *Reconstruction*, he calls special attention[1] to the fact that " even the most ill-organized intractable industries are producing leaders, who understand the need for moving with the times. These men are genuinely anxious to modernize the methods of production and management. They would welcome statutory assistance which it is proposed to offer them ".

This way of viewing the problem seems much more nearly to approach modern characteristics of industrial business men than that of suspecting that, if once greater administrative powers are conferred upon " certain arbitrarily selected individuals ", " the government of whole industries can pass, without anybody being aware of it, into the hands of a close ring or even a single individual," as the *Economist* has put it.[2] It must, of course, be the duty of the State to be on the look out for such possibilities where they occur. It must belong to the State's tasks newly imposed by a concentrative development in industry to see that " leaders " are not " arbitrarily selected individuals ", but really leaders. The nomination of " Independent Chairmen in Industry " may be one of the means to this end and the appointment of Sir Andrew Duncan as an independent whole-time chairman of the newly constituted British Iron and Steel Federation has been a first step in a direction which is extremely important from an organizational and national point of view. This departure may be taken as another sign that important functions of industrial development are now passing out of the hands of the manufacturers into those of men outside the industries' own ranks. In this case this " outside " influence comes not from financial quarters, but from the necessity of using the knowledge and wisdom of large scale administrators. Of course,

[1] Cf. H. Macmillan, loc. cit., pp. 42–3.
[2] Cf. *Economist*, 2nd February, 1935, p. 238.

such administrators will carefully balance the divergent interests within their industry and they will necessarily have to rely upon the knowledge and advice of the expert manufacturers or firms belonging to it. But on the other side they will devote their energies to the problems in which the State has to be interested from a point of view of national economic welfare. Collaboration between the State and these leaders will probably lead to fewer complications, difficulties, and risks than would be the case if there were an immediate linking up of the State's administrative functions with such organizational developments in industry as should be left to the force of events or to the combined initiative of industrialists themselves.

SUMMING UP

The new development of concentration in industry has been, and still is in many cases, regarded from two diametrically opposed points of view. There are those who see in industrial concentration and combination of all kinds a regrettable departure from the traditional competitive system, and claim that the new development is the effect merely of certain conditions of production recklessly exploited by monopolists and would-be monopolists, backed by the State through patent legislation and tariffs—conditions which give rise to bringing about the danger of high prices, strangulation of the individual manufacturer, a dragooning of the consumer, and a harmful " inflexibility " in the economic system. They assert that concentration in industry is no " organization " at all, but merely a condemnable deviation from the competitive system, which in their eyes is " the " organization proper. If they do not advance proposals directed towards the suppression of such concentration, they at any rate desire that nothing should be done to support it. This relates especially to the legal sphere, as, for instance, to the attitude towards " coercive " and " exclusive " agreements.

The other party holds that the " old " system of industrial individualism was mistaken. It was no " organization " at all, but chaos. Concentration in industry, the big unit, combination, so far as it does not result in obviously oppressive measures, is to be regarded as a higher stage of industrial organization and it ought to be applied over the whole industrial field. In these days of economic depression, of overproduction and economic disorganization in many industries, this theory has become especially persuasive;

it stands in the forefront of many plans for reconstruction, and industries that are not willing or alert enough to adopt it are seriously criticized for maintaining old-fashioned ideas of industrial policy.

Economic science must reject both these attitudes. Professor Macgregor very aptly declared, when talking about rationalization and planning, that we ought to smooth out our fluctuations of thought. We may go one step further, and say that we should smooth out our fluctuations of judgment. That is why we have been reviewing the history of industrial organization as it relates to the problem of competition and concentration, and why we have been trying to analyse at length the fundamental conditions underlying modern industrial concentration with all its new features. We see in it not a sudden extraordinary or even accidental arrival of industrial organization, based upon a more efficient judgment of industrialists and a "failure" of the system of individual competition, but the expression of fundamental material economic conditions of a specific and scientifically analysable character.

The economic history of modern times shows that it was not individual competition which stood on the threshold of modern industrial capitalism. On the contrary, the early period of modern industrial capitalism was characterized by monopolies in many of the "new" trades, and by a capitalist domination over the gilds through some sort of putting-out system. This changed only with the emergence of factories. Whereas small crafts representing small split-up units had not been able to handle the increasing volume of trade and had therefore become subject to external domination which was in search of concentrative exploitation of the large-volume trade, the factory represented a larger single unit, able to comply with the bigger demand of widening markets. Industry became independent of concentrative domination either of external capitalists or of such of their own class as

might have become prominent capitalists themselves. The desire to " concentrate " disappeared and the competitive system took its place.

This changed, however, when from the eighties onwards a new revolution in markets set in, which was due to revolutionary progress in the means of transport and communication. This progress implied, indeed, a fundamental change in the structure of the supply of goods. A new mass demand and a new mass supply arose. Industrial goods, and others too, could be produced wherever conditions of production were economically most favourable almost regardless of the cost of transport over long distances. This meant the possibility of concentrating production at certain points, of centralizing it where decentralization had previously prevailed, in order to supply concentrated markets, or drawing supplies from concentrated fields of production. The effect of this was a new sort of integration, either within a national territory or in the world-economic sphere, and this process of integration became even more pronounced by way of a locational shift of the stages of production to certain integrated points, thereby breaking up the process of production and concentrating its separate stages at certain most profitable points of production. The most pronounced result of this was the creation of certain points of raw material domination, as nature had not spread many of its gifts all over the earth but had concentrated these resources in regions and localities. Integration, territorial, national and international, evolving directly out of transport revolution, but also supported in many cases by tariffs, gave a new chance to concentrative domination in industry. But its concentrative exploitation was conditional upon the existence of other circumstances which might or might not exist or develop. The question whether an industry or line of production, which was geographically integrated, could make use of this

position by concentrative organization, was and is dependent upon the question whether an industry possesses within its sphere of production certain conditions of concentration. This was the case where an industry had from the beginning been built up upon a few undertakings, where the technical development, adapting itself to mass production, created a concentration of units of production, where horizontal or vertical combination led to bigger concentrated units either with the purpose of adopting a more economic method of production or with that of providing safeguards against already existing concentrative developments in primary or later stages of production. We have tried to show how closely interrelated these different conditions of concentration of units may be. Where, however, the existence of territorial or geographical or international integration were coincident with these conditions of concentration in the structure of industry a genuine concentrative organization of industry was able to emerge.

This development certainly contained a monopolist element. It has been one of our aims to show that concentration is a much wider term than quasi-monopoly, that while every quasi-monopoly will be based upon concentration, concentration need not necessarily mean quasi-monopoly. But we have also endeavoured to show that the movement towards concentration of units, that indeed the " big " unit itself, contains the germ of quasi-monopoly. Where such concentrative tendencies are not yet ripe for the final exploitation by a single unit-undertaking their possible effects may be anticipated by the formation of agreements touching all the already existing features of concentrative action—so far as such agreements are legal and enforceable. This leads to the formation of cartels and syndicates, but the final stage of concentration will probably remain the formation of amalgamations leading to trusts, which

will not, however, be able or likely to give up the assistance of agreements. Thus the concentration of units may be further developed within the cartel or association, while on the other hand we have shown that the cartel itself will again in many cases accelerate the process of further consolidation.

With this "tableau" of the fundamental conditions making for concentration and combination in mind, one ought at least to cease attributing their rise and existence, which is in fact due everywhere to a coincidence of territorial integration with the possibility of creating large units of production, to a mass of unrelated, partly accidental, and temporary circumstances. This eclectic method is gravely mistaken. It has led to the result that sometimes monopolies of raw material, sometimes patents, sometimes tariffs, sometimes the desire to evade the effects of the depression, sometimes monopolist aims pure and simple, sometimes the existence of conditions checking an unlimited expansion of production, have been designated as the real causes of quasi-monopolies, whereas in fact these quasi-monopolies have grown up also in free trade England, in highly finished industries as well as in those with natural monopolist conditions, with or without patents, in good as well as in hard times, while again individual competition prevails in many protected industries, an individualistic struggle is going on in industries rich in patents, and there is non-monopoly in cases where there exist limited and even concentrated natural resources.

The elucidation of the fundamental conditions leading to concentration, and possibly to quasi-monopoly, will now allow us to distinguish quite clearly why such a movement will be possible here and not there or why it has been possible now and not before. The present author does not, indeed, know of a single case where the lack of quasi-monopoly has not coincided with a lack of territorial integration or

with a lack of conditions allowing bigger concentrative units of production, and there are no cases to be found where the formation of cartels or trusts has not been based upon a combination of these two fundamental groups of conditions.

But the recognition of this ought to have a practical consequence. It should prove that it is not possible, even to-day when certain co-ordinative features of combination and concentration seem to be most desirable, to " make " this development. It ought to be quite clear that since concentration in industry is linked up with certain fundamental laws and conditions, which are not to be found everywhere in industry, the " system " cannot be applied everywhere. Of course, illogical reluctance, stickiness, and traditional obstinacy on the part of industrialists may be exempted from this consideration. But these factors will probably not do much more harm than a schematic application of a system or development which has developed quite organically out of certain economic conditions and which by having done so is entitled to be considered quite as " natural " as was the system of free competition. To overrate these tendencies which are necessarily bound up with the existence or latency of the fundamental conditions described would be no less illogical and would probably have fatal consequences.

But what matters a great deal is to refrain from considering the picture of modern industrial organization merely or even primarily from a monopoly or anti-monopoly point of view. The structure of industry is undergoing changes which go far deeper than that. The big concentrative unit of production implies, quite apart from any monopolist possibilities, quite different organizatory tasks than were those of the " independent " manufacturer. We have shown that a new kind of capital supply is needed, that self-financing of industry is disappearing once more in

modern economic history in favour of capital supply either by promoters or by the wealthy concerns of the particular industries, or else by banks, who are thus all taking on the new role of commercial industrialists. A new system of putting-out is evolving. The independence of the single industrialist, should he not be a trust or trust-like producer himself, is once more disappearing. A new aim of capitalist power, extending far beyond the confines of the old type of single undertaking and sometimes unrelated to the specific industrial tasks of those in whom it is developing, is growing up. The aim to control whole industries and adjacent fields of industry by using concentration as an instrument is rising among industrial men and within industrial undertakings. A newly developed system of financial interconnections, leading to the interlocking and interlacing of companies and directorates—coupled with many advantages in regard to capital supply but also with many dangers of a private as well as national economic nature—built up upon the holding company principle, upon communities of interest, partnerships, and subsidiary companies, is surrounding the new industrial concentration with a network of novel forms of financial organization.

The steps that the State will and should take in face of these new forms of industrial domination will mainly depend upon the different views which may be taken about the various features of the new situation. It goes without saying that a much broader and stricter interference of the Law and the State will be needed in respect of any exaggerated effects of concentrative forms of industry, of cartels or trusts, big units or concerns then under a system of free competition and non-concentration. This applies to prices, to trade practices, to publicity, to over-capitalization, to company finance. But it is difficult to draw a hard and fast line as to what the State will actually

have to do. The State will undoubtedly combat oppressive prices in the interests of consumers and manufacturers of the later stages of production. But as to the general price-level and smaller rises its attitude may be influenced by considerations resulting from the depressed state of industry, such as might make a rise in prices, by the very instrument of cartels, desirable. The State may act as a protector of the individual and combat exclusive agreements. But it may also act as a supporter of co-ordinate industrial organization and decree compulsory cartelization or measures facilitating amalgamations, instead of decreeing "compulsory" competition. All this depends upon its judgment of the economic effects of concentration and combination. And again this judgment may change with changing economic conditions. While, therefore, the attitude of the State may be essentially "relative" in these respects it might possibly become a principle of State policy not to embark with all its responsibilities, which are other than those of private enterprises, and also its financial resources directly on the formation and administration of the new forms of industrial organization—in any case, so long as such interference does not seem unavoidable. Intermediaries may be created between the State and industry, where necessary.

A remark about a cultural and general aspect of the new industrial situation may conclude our essay. Just as there are at present people strenuously fighting for a restoration of free competition and others just as strenuously fighting for the new forms of organization, so the effects of the new order in regard to culture are also much disputed. Shall we all be rationalized, standardized, and dragooned in what we consume and therefore in our wants by some sort of planning, shall industry lose all its independent force, and will even the individual and casual, but ingenious, inventor be replaced by the planned laboratory and research

bureau of big units? We do not share such apprehensions. Assuming normal conditions they will not be justified. The artisan of the past has lost his predominant position, but he has not disappeared. As to the other point: inasmuch as a better and more efficient organization of industry, though standardized and "planned", because it deals with mass distribution, will develop, as a kind of "compensation" for the effects of rationalization new wants will be set free, which could not be satisfied before the cheapening of the mass production goods took place, and these demands will probably again be differentiated and not allow of mass handling such as that of the rationalized industries supplying basic wants. There is no reason to believe that certain effects of concentration will annihilate the diversified progress of mankind in all spheres. Nobody will deny that permanent bureaucratic research work has immensely helped the steady progress of industry. But this should be no reason for giving way to such pessimistic doubts as to whether "splendidly equipped" laboratories of combined industrial units will be able to produce new inventions and original thought, because "most important inventions have been made with the most rudimentary apparatus under primitive conditions".[1] Variety in inventions is necessary and also possible. Perhaps the independent inventor or discoverer will not need or want the help of specialized research laboratories. But industry does not only need individual initiative and courageous attempts of scientific men, who are at first regarded as some sort of foolish *hasardeurs* and sometimes burdened with the risk of their individual ideas throughout a rather hard and serious life; it needs also some sort of "planned" scientists working laboriously, though with no personal risk, on certain well-defined details and specialities of industrial science within the shelter of a huge

[1] Cf. Lord Melchett, *Modern Money*, 1932, pp. 148–9.

undertaking. There is no reason why the one should not exist alongside the other, as their fields of activity are indeed very different and dependent upon very different necessities. And it is this kind of relativity which should also be kept most seriously in mind before any particular industrial system is proclaimed as being of exclusive importance.

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