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# HISTORY OF TRADE AND COMMERCE



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A HISTORY  
OF  
TRADE AND COMMERCE  
WITH SPECIAL REFERENCE TO  
CANADA

BY

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## PREFACE

This little volume has been written especially for those Canadian High School students who take a course in commercial history as part of their work in industrial or commercial education. Perhaps the book may also be of use to university students who are making their first acquaintance with economic history, theory, or description. For such students the only books available have been those published in Great Britain or the United States, and the treatment given therein to Canada is extremely meagre. I have therefore tried to make a rapid bird's eye survey of general economic history, and then to devote the last one-third of the book to the story of Canada's material development.

With such a large field to be covered, I have had to omit any mention of many topics, give only a thumb-nail sketch of others, and compress accounts of some important and interesting events into a few lines. In the Canadian chapters I have tried to pick out the "high spots", and deal only with those conditions and trends which have played the most important part in making the Canada of today. I hope therefore that teachers using the book will fill in the gaps, and expand the topics I have introduced. For that work the books mentioned at the end of each chapter will be found useful. I would also like to urge that in teaching the modern part of the subject, students be sent frequently to read relevant sections in some volume of descriptive or theoretical economics, and for the Canadian part of the story students should be expected to handle *The Canada Year Book* continuously.

I should be glad to receive from teachers *and students* any criticisms or suggestions which would help to make

the book more useful in the event of a second edition being required. For help readily given I wish to thank colleagues in Queen's University, Kingston, and the University of Minnesota.

**H. HEATON,**

### **ACKNOWLEDGMENTS**

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# HISTORY OF TRADE AND COMMERCE

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## CHAPTER I.

### BUYING AND SELLING

**W**E are all buyers or sellers, or both, nowadays; we live in a commercial age. Everybody buys things, and nearly everybody sells things or makes them for others to sell. Unless we are farmers or live an isolated life, we produce few or none of the goods we consume; our food, clothing, furniture, and all the other things we want for our daily life are made for us by other people.

We start our commercial activities at an early age. Even the boy in kindergarten class "trades" marbles, cigarette cards, jack knives, or other juvenile treasures, and the speed at which our pocket money vanishes is proof of the ease with which we acquire the spending habit. When we go out to work for our living, we become both buyer and seller, and the wares we sell may be of three kinds. (1) We may sell *goods*, the necessaries, comforts, or luxuries our fellows desire. (2) We may sell *services*. The doctor sells us his medical skill and experience when he comes to our aid in time of sickness; the lawyer sells his knowledge and advice when we are in legal difficulties or doubt; the actor, musician, and movie theatre sell us pleasure, laughter, or tears. The railroad, the street-car, the motor bus and the ship sell us transportation service by taking us or our goods quickly to places

that we should reach only slowly, or never at all, if we had to walk or row ourselves. (3) We may sell our *labour*, our power to do work of a certain kind, the strength of our muscles, the skill of our fingers, the ability of our minds.

If we watch our neighbours, we shall find them all selling goods, services, or labour. A few people are so rich that they do not need to work for a living, but for most of us it is true that he who will not sell, neither shall he buy; or to put it another way, he that cannot sell, cannot buy, and is in danger of dying of starvation. Even the so-called "idle rich" man lives by selling something. He has property, in the form of land, buildings, or money, the use of which he sells to individuals, corporations, or governments, and from the rent, interest, or profit he receives as sale price he is able to buy what he needs. Thus we all live in a market, selling our wares and then buying others.

Of this market, two important features must be noted. The first is the tendency of each trader to sell only one thing or group of things. One shop sells nothing but hats and men's "furnishings," another sells only books, another shoes, another musical instruments. The lawyer will not give you medical advice, the doctor tends to abandon "general practice" and become a specialist dealing only with eyes or ears or throat troubles, children's complaints, or surgical operations. Many wage-earners have only one kind of skill to sell, and a man may go through life selling nothing but his ability to make waistcoats, or drive a street-car, or put points on pins, or tell you the name of the next railway station and urge you not to forget your parcels. In high school and university each teacher has one particular branch of knowledge to sell: one knows much chemistry but

could teach little Latin and less Greek; another dispenses geography or history but might fail dismally at teaching literature or geology. We are all tending to become specialists in some small corner of the market; we are trying to be master of one trade instead of Jack of all. Even the big departmental store in our cities, selling everything from food and furniture to books and bicycles, is really a collection of specialised stores under one roof, and the expert seller of pictures or plumbing ware might be at a loss if he were transferred to the ribbon counter.

This specialization we call *division of labour*. It is one of the most important factors producing material progress; for as we cut up the work of the world into little patches and give each man one task, we produce experts who do the job more easily, quickly, and accurately. Thus we get more work done in less time and at a lower cost. Practice makes perfect, whether it be in starting and stopping a locomotive, making up Pullman berths, writing shorthand, handling a paintbrush, or cutting glass. And when the practice is done by a person who has a natural gift for that kind of work, when the man who is naturally skilful does skilled work all the time, and leaves those who have neither skill nor aptitude to do tasks which do not require those qualities, then each member of society is being used to the best purpose and the greatest output of goods and services is achieved with the least waste of talent or energy.

The second feature of our buying and selling world is that specialization extends to regions and countries. Just as individuals have different qualities and abilities, so do geographical areas differ in soil, climate, mineral resources, natural transportation facilities, and in the presence of useful native plants and animals. These differences make various regions naturally suitable for the production of certain commodities. We *could* grow

grapes, bananas and oranges north of the Arctic Circle but we should have to do it in glass hothouses, burn much fuel, and the product would be meagre and costly. Tropical regions need neither glass nor furnaces, and can produce certain goods cheaply and in large quantities. The vast semi-arid regions of inland Australia are unfitted for agriculture, but they can support millions of sheep and thus supply the world with large quantities of mutton and wool. In Lancashire it always seems to be raining, and crop-growing would be a hazardous occupation; but the very dampness of the atmosphere makes the region a natural home for spinning and weaving cotton, since cotton must be spun in damp air.

Of course there are other factors to be considered before we decide what the people of any region are to do. Is a supply of capital or labour available? Is it wise to put all the eggs in one basket and produce only one commodity? Can the surplus goods of a favoured region be taken easily to market, and when they get there will there be a buyer for them at a profitable price? These and other questions have to be answered, but broadly speaking it is true that men tend to give special attention to those tasks for which climate and natural resources fit their district.

**Exchange** From this regional and personal specialization springs the need for the market. If everybody everywhere produced the same things, there would be no exchange. We can imagine the market as a great storehouse into which we deliver the particular goods, services, or labour we have to sell. Each takes in his one product, and in return gets bits of the many other products he needs. The use of money prevents us from seeing how simple the process really is, and so the maker of bolts in an Oshawa automobile factory does not realize that he is exchanging

those bolts, apparently for dollars in his weekly pay-envelope, but really for Australian wool woven into Yorkshire tweeds, for raw Alabama cotton turned into Lancashire cotton fabric, for Virginia tobacco prepared and packed in Montreal, for tea from India, for coffee from Brazil, for flour from Manitoba, for electricity from the Trent valley, for pictures from Hollywood, for coal from Pennsylvania, for oranges from Florida, for raisins from Greece, for street-car rides and for a roof over his head in Oshawa. Possibly the seller may consume or use none of the things he actually makes, for the automobile worker may be unable to afford a car, the candy-maker is said to be so "sick of the sight of" his wares that he never eats them, and the shipyard-worker may never have been on a sea-trip. But provided he can sell his own particular brand of labour or service or goods, he can spend the proceeds as he wishes.

Here then are the two outstanding facts of modern economic life—specialization and exchange. We can realize how important they are if we picture a world without them. Imagine an individual cut off, as Robinson Crusoe was, from all contact with the outside world, but with no carefully equipped wreck lying near the beach. Such a man would be compelled to meet all his own needs by his own many-sided labour. He would have to be farmer, builder, blacksmith, spinner, weaver, butcher, baker, tinker, tailor, hunter, fisher and a dozen other things as well. He would produce everything himself, or rather he would have to do without the things he could not produce, and they would be many. He would be limited by the natural resources and climate of the place on which he was stranded, and be forced to fashion the necessary implements before he could hunt, fish, farm, or make. Unless he was, like the sailor in the "Just So Stories," a man "of infinite resource and sagacity," his life would be drab, crude, and short.

Such a picture may be fanciful, but if instead we look at a primitive family or tribe we are on the firm ground of fact. The mediaeval family farmed a bit of land, looked after its own livestock, spun wool into yarn, wove the yarn into cloth, made the cloth into clothes; it tanned its own leather and made its own footwear, carved spoons, platters, and bowls, brewed its own ale, baked its own bread, made its own domestic furniture and farming equipment. Apart from one or two necessary tasks which called for professional skill, such as that of the blacksmith, or commodities which had to be brought from far afield, as for instance salt, the family was self-sufficing. Even as late as 1800 an observer wrote that in the north of England "almost every article of dress worn by farmers, mechanics, and labourers is manufactured at home, shoes and hats excepted. There are many respectable persons at this day who never wore a bought pair of stockings, coat, nor waistcoat in their lives, and within these (last) twenty years a coat bought at a shop was considered a mark of extravagance and pride if the buyer was not possessed of an independent fortune." At that time, and even later, the rural family in Eastern Canada lived on what it produced, and only to a small extent met its needs by buying from the outside world.

The history of commerce describes how Features of and why this self-sufficing mode of life Commercial was changed to that of buying and selling Growth the products of specialized labour.

The story shows us three chief developments: (1) a steady increase in the quantity and variety of goods handled; (2) an increase in the proportion of people who were buyers; (3) an extension of the distance goods were carried to market. Modern commerce handles all things that have value; it sells



things to all people; it fetches them from the uttermost ends of the earth. It affects everything, everybody, everywhere.

The growth in the number of buyers and of goods sold has been partly the result of a growing division of labour, for the specialized worker buys things which the self-sufficing producer would make for himself. If the prairie farmer concentrates on wheat production, he has to go to the market for his butter, eggs, meat, manufactured wares, and even his flour. The housewife, who once used to spin, bake, brew, wash and make the family's clothes in addition to her general housework, abandoned her spinning wheel when spinning machines were invented, and has since handed over other tasks to the baker, brewer, tailor, and laundryman.

But an equally important cause of the growth in the number of commercial wares was the fact that the production of new commodities and the extension of cheap transportation awakened new demands. Every individual is a bundle of actual or possible wants. Those wants are unlimited in number, and new ones make themselves felt on the least provocation. So long as a thing does not exist, or its existence is not known—whether it be knives and forks, china, cocoa, bananas, automobiles, tobacco, radio sets, or comic strips—we are satisfied with the things we have. But if an inventor produces some new device, or if contact with people of a different or more advanced civilization introduces some new commodity to us, we feel a new want and shall not be happy till we can satisfy it. When the Crusaders saw the fine fabrics, exquisite metal-work, and other luxuries enjoyed by the more advanced peoples of the Orient, new wants stirred in their breasts and the European demand for Asiatic wares grew rapidly. When the white man introduced mirrors, guns, metal goods, and "fire water" to the African negro, the American redskin,

and the New Zealand Maori, those people immediately wanted them, while the commodities obtained in exchange created new demands when they were put on the European market. At first such new wants are satisfied only by the rich who can afford to pay a high price for the luxury ; but others, less rich, also want the new toy, and so gradually cheaper production or importation allows the luxury of a few to become the comfort of many and eventually the necessary of all.

The extension of the geographical range of commerce was largely the result of improvements in the means of transportation. The mediaeval producer sold most of his meagre surplus in the local market, and little of it went far afield, though there was some long-distance trade. While roads were bad and ships small it was unprofitable to carry goods long distances unless they were small and valuable and were wanted by people who could afford to pay high prices for them. The cost of transportation was too high. But during the 15th and 16th centuries new worlds were discovered and new sea-routes to the Orient. Along these routes larger ships carried produce much more cheaply ; from the new world new commodities were brought, while improvements were slowly made in roads and rivers in order to allow inland commerce to flow more freely. But it needed the steamship and the railway to make world trade possible in big heavy raw materials and foodstuffs.

To-day the trade of every country is divided into two parts—domestic and foreign. Nearly everywhere the domestic market is larger than the foreign. For instance, Canada and Australia, in spite of their reputation as large exporters, consume two-thirds of their annual product and send abroad only one-third. Similarly Great Britain in 1907 sent abroad only one-third of her gross production, and the fraction is probably no larger to-day.

Domestic trade is largely concerned with feeding the large towns which are such a feature of the modern world, and with supplying the raw materials for the city factories ; in return the cities supply the manufactured wants of their own people and of the rural population. Foreign trade is widely diffused. Canada for instance sends goods chiefly to Great Britain and the United States, but smaller amounts are sold to nearly sixty countries or their colonies and dependencies. In return we buy from nearly every other land, even from such places as Abyssinia and Liberia. Some well-known modern products can be found in every centre of population throughout the world. A certain popular automobile is nearly as well known on the hills of Ceylon, the road alongside the Suez Canal, the plantations of Fiji, the bush tracks of outback Australia, the lower slopes of the Andes, and the roads of the Gold Coast, as it is on the highways of Ontario ; and a globe-trotter would have little difficulty in getting new films of the desired size and brand for his camera in any town of 10,000 inhabitants in any continent.

The history of commerce is the story of  
**Influences** selling more kinds of goods to more people  
**On** in more places. But behind the actual  
**Commerce** exchange of goods lie four other activities,  
 which influence, and in turn are influenced  
 by, the growth of trade.

*Production.* The first is production. Goods cannot be sold until they have been produced, but it is useless to produce them unless they can be sold. An increased demand or a new demand puts a strain on the machinery of production, and producers therefore have to seek for better methods or improve their organization to cope with the demand. If the market is big enough production can be organized on a large scale and

division of labour can be carried very far. On the other hand the methods of production determine the cost at which a commodity can be sold, and therefore the size of the market. For instance, it costs so much at present to produce stainless or rustless steel that this steel can be used only for cutlery ; but if a cheap way of producing it in large quantities is discovered a big market will be found in industries where steel is exposed to the weather, *e.g.*, railroads and steamships. Thus commerce is always calling on industry and agriculture to do new things or do old things better, and the producer in return creates new products and tells the commercial man to sell them.

*Transportation.* The second influence is transportation. Exchange, except between neighbours, is impossible until men can move goods economically from place to place, and in large measure the history of commerce—we might almost say the history of civilization itself—is the story of a man's steady improvement of the means of communication by land, sea, and air.

*Currency and Credit.* The third influence is the currency and the facilities for credit. If exchange was to pass beyond crude barter, men needed some medium of exchange and some standard by which the values of different commodities could be measured and expressed in common terms. So money was devised, and the cobbler who sold his boots to the butcher, but did not want meat in return, could take payment in money. That money he could then take to the tailor, who had clothes to sell but did not need boots, and pay for his jacket. Or if he did not want a coat at the moment he could keep the money, which thus became a store of value as well as a medium of exchange and a foot-rule to measure the relative worth of boots and beef.

But commerce needed more than a good currency. It needed credit, so that the trader who was embarking

on a long or distant venture, and who might have to wait months before he sold the goods he bought to-day, could borrow money to tide him over the waiting period. It also needed organization by which debts, both local and long-distance, could be paid without sending precious metal or coins, so that a Toronto importer would be able to pay for the goods he bought in Hamilton, Hamburg, Hong-kong and Havana without sending anything but pieces of paper to his creditors. Therefore the banking system grew up, to gather together savings, to lend them to such as wished to borrow the use of them, and to facilitate the payment of debts.

*The State.* The fourth influence on commerce is the *state*. There are three ways in which the wants of mankind could be met. We, as *consumers*, might group ourselves together, pool our savings to provide a capital fund, and then set up the producing and distributing machinery to make the goods we need and bring them to our door. This plan we call *consumers' co-operation*. Or we might, as *citizens*, demand that the state—by which we mean the dominion, provincial, or municipal government, or all three of them—take charge of the work, with state farms, factories, railroads, warehouses, shops, etc. This plan we call *socialism*, or *collectivism*, or *public ownership*.

To some extent these two methods have been adopted in various parts of the world. But the great bulk of the world's production and trade is carried on in a third way, that of *private enterprise*. Each individual is legally free to use his capital or labour in any way he thinks most advantageous to himself. He can undertake any trade or calling he wishes, except a few forbidden occupations such as highway robbery, piracy, or forgery. If he has no capital he sells his labour in the best possible market; if he has capital, he tries to

employ it in making and selling goods or services, hoping to receive in return a wage for his labour, interest on his capital, and profit on his enterprise. The desire for profit is the driving force urging him along, and if no profit is forthcoming the community will soon be deprived of his services and capital. To supply the community with what it wants is the means, to secure a profit is the end.

But while the state leaves the individual free to work as he wishes, it does not leave him entirely alone. It *helps* him, by safeguarding life and property through its laws, police, penitentiaries, courts, army and navy; it helps by providing roads, establishing a currency, fostering public health, collecting statistics, appointing trade commissioners, building lighthouses, publishing weather reports, undertaking research, subsidizing shipping, setting up schools and universities, and in a score of other ways.

While helping the individual, the state also *regulates* his actions. It realizes that sometimes the money-making methods of some citizens may be harmful to the well-being of the community as a whole, and that individual wealth may be obtained at the cost of injury to the people's health and welfare. Some "tricks of the trade" must be prevented; there must be no hitting below the belt. Hence the state demands that goods shall be clean and unadulterated, that certain services shall be sold at a reasonable price, that wage-earners shall not be employed before they reach a certain age, work too many hours, toil in unhealthy or unsafe surroundings, or be paid less than a living wage. Nay, more, the state may feel that the country's general economic development should go in a certain direction, and that more goods should be manufactured or grown in the country, instead of being imported. If it holds this view, it may, by imposing tariffs on imported wares, injure the

free enterprise of those who live by importing goods, and encourage others to take up farms or set up factories under the shelter of the tariff wall. At almost all times in history the state has taken an active part in regulating the enterprise of its subjects.

Finally, the state may *supplement* private enterprise or even *compete* with it. It may run railroads, establish banks, own ships, give financial assistance to producers and marketing organizations, manufacture goods, build houses, open shops, generate electricity, run theatres and provide orchestras. Sometimes it does these things because there is little or no profit in them, and private enterprise will not touch them; sometimes it is definitely competing with private rivals; sometimes it acts on the principle that certain services which are called "public utilities" should be run by the public authority for public benefit rather than private profit.

In the following pages we shall trace the gradual development of our modern commercial system, keeping particularly in view the extension of the area and wares of commerce, the improvements in transportation, the methods of marketing, the shaping of better money and banking systems, and the attitude and activities of the state.

**Supplementary Reading.** For a more detailed study of specialization and exchange, see Maciver, "Elements of Social Science," pp. 1-7; Clay, "Economics for the General Reader," pp. 1-6, 22-23; MacGibbon, "Introduction to Economics for Canadian Readers," chaps. 1, 2; Taussig, "Principles of Economics," pp. 30-43. For a general discussion of the nature of commerce, see Day, "History of Commerce," pp. 1-5; Adams, "Commercial Geography," chaps. 1-5.

## CHAPTER II.

### THE BEGINNINGS OF COMMERCE

**P**RIMITIVE man knew little of trade. He lived at first chiefly by hunting and fishing, collected wild fruits and roots, ate honey when he could find it, and even in places devoured snakes, lizards, and insects. Gradually he fashioned weapons of wood or stone, such as the arrow, or spear, or boomerang and became skilled in killing or trapping his prey. "With herbs and game for food, skins for clothing, the earth for a bed, and arrows as (his) supreme possession, (he) refused to delve or plough the soil"(Gras). Such a man would have little with which he could trade, or few wants that others could supply, *unless* he came into contact with people of a more advanced stage of civilization.

Then man learned to capture certain animals, to domesticate them instead of killing them. Dogs, cattle, sheep, goats, poultry, and eventually the ass and horse were tamed and man became pastoral. He added milk and eggs to a diet that had formerly been confined to fish and meat, he sheared his sheep and gave variety to his clothing, and he learned how to ride a horse. With his flocks and herds he roamed about in search of herbage and water, but whereas the hunter had kept to the forest where the game found shelter, pastoral man moved towards the open grassy plains. Among such men there might be some trade in livestock, and the pastoralist found a market when he came in contact with people of a more advanced stage of civilization who wanted his wool and hides, or the slaves he captured in his frequent conflicts with other pastoral tribes.

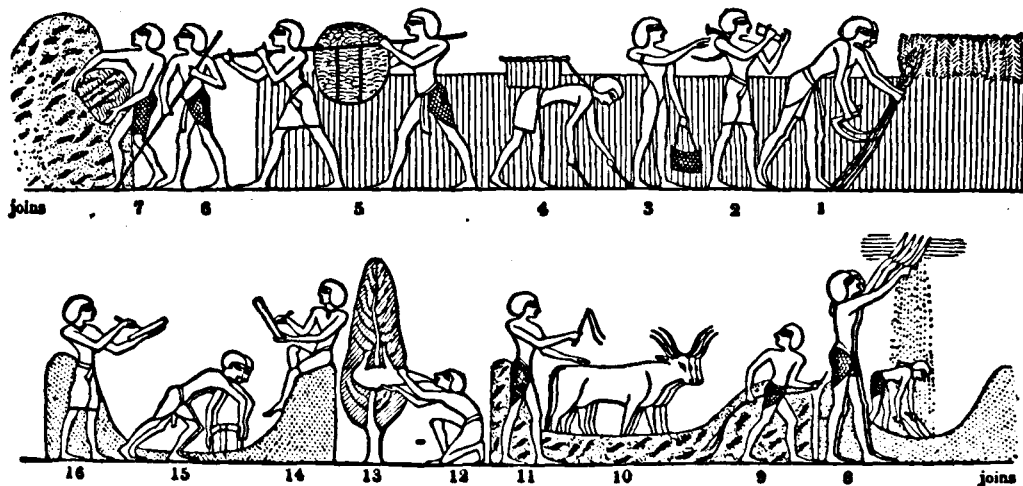


Eventually some groups of people settled down in one place and began to cultivate the soil. This settling down was a very slow process, and took place first in regions where the soil was very fertile. To become rooted in one spot, to sow and reap, was a great change in man's whole method of life; but only when that change took place did it become possible to develop anything that could be called a civilization and to make progress. Consequently the first important fields of commerce were those where civilization was built up on an agricultural foundation in the rich river valleys of Egypt, Babylonia, India and China. We do not know which country was the first scene of settlement, for the historians today are debating the relative claims of Egypt and Babylonia, and the debate is far from being ended.

About 5,000 B.C., men began to cultivate the banks of the Nile. Egypt was rainless, 5,000-1,000 B.C. but every summer when the snows on the mountains of Abyssinia melted, the river rose 20 feet, and flooded the narrow valley.

When the flood receded it left behind a rich layer of silt. The flood took the place of rain, the silt was an annual dressing of fertilizer; hence, given the blazing Egyptian sun, cultivation was easy and the yield plentiful. There was always "corn in Egypt", and by developing primitive forms of irrigation and water storage the Egyptians were able to increase their food supply still further.

On the basis of this agricultural prosperity a highly-developed civilization was built up. A method of writing was evolved, and so records could be kept; someone accidentally discovered copper in what looked like a piece of stone but was really copper ore, and so mankind, which had hitherto known no tools except those of wood, stone, and bone, was introduced to the unlimited uses of metals. Imagine our world without



### Egyptian Harvest Scene

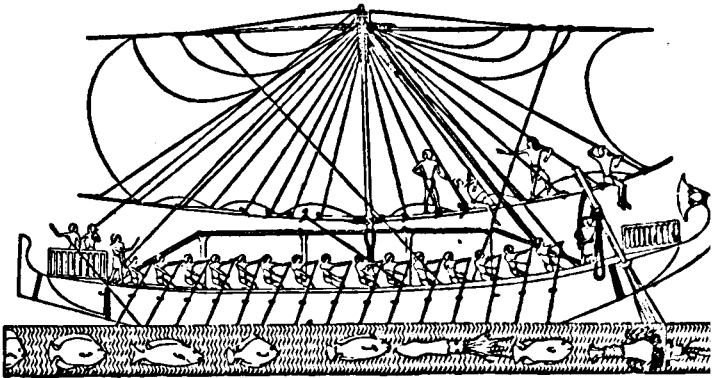
1. The reapers. 2. A reaper drinking from a cup. 3, 4. Gleaners; the first of these asks the reaper to allow him to drink. 5. Carrying the ears in a rope basket, the length of the stubble showing the ears alone are cut off. 8. Winnowing. 10. The tritura (answering to our threshing). 12. Drinks from a water-skin suspended in a tree. 14. Scribe who note down the number of bushels measured from the heap. 16, Checks the account by noting those taken away to the granary.

writing or records, without print or pen, without books or newspapers; consider how we should fare if we were deprived of metals, and had only stone, wood, and mud at our disposal; then we get a faint idea of the importance of these two discoveries.

Industrial arts developed rapidly, and from inscriptions and articles found in tombs we know the variety and quality of the product. The goldsmith and jeweller did work equal to the best of today. The potter began to use a wheel on which to mould his wares, and baked them in an oven instead of by the sun. Spinners and weavers made linen as fine as silk, and produced richly-designed fabrics. The cabinet-maker decorated his sumptuous furniture with inlays of gold, silver, ebony, or ivory. The sculptor was equally at home carving little ornamental figures or hewing the Sphinx out of a promontory of rock. The painter learned to mix colours that are still vivid after five thousand years.

These beautiful wares were not enjoyed by the peasant or by the craftsman who made them. They went to the king, the nobles, or the priests, who lived in luxurious splendour; or they were put into the vast tombs in which the Egyptians buried their dead. "No other nation ever made so steady and supreme an effort to protect their great dead and perpetuate their memory as did the Egyptians" (Marvin). They therefore used enormous quantities of labour every summer in building the tombs and pyramids, and then they placed therein furniture, jewellery, fine fabrics, metal wares, etc.: chairs, beds, jewel caskets, and even gold-covered chariots have been found in the tombs. The fertility of the soil, and the labours of peasant, craftsman, and slave went to provide luxury for the rich when they were alive and a lavishly furnished tomb when they were dead.

Much of the raw material for these luxuries could not be produced in Egypt. The country had no forests, no mineral deposits, no spare land on which to feed animals; spices, which were needed to flavour food and drink, could not be grown; ebony, ivory, ostrich feathers, and other ingredients of Egyptian finery were not to be found at home. Egypt had to draw supplies of these materials from elsewhere, and foreign trade developed. So her boats ventured out on the waters of the Mediterranean and her caravans of donkeys moved south and west. They took with them wheat, metal and textile manufactures, and brought back the cedar and ores of Lebanon or Asia Minor, the slaves, and raw materials for luxuries from Central Africa. Egypt even went so far as to cut a canal between the Nile delta and the Red Sea, in order to get easier access to East Africa and the lands of the Indian Ocean.



Egyptian ship of the expedition to Punt (Somaliland) about 1600 B.C.  
From a rock carving at Der el Bahari.

**Babylonia.** that of Egypt. The Tigris and Euphrates  
**5,000-1,000** overflowed their banks when the snows  
**B.C.** of the northern highlands melted. Gradually men learned how to regulate the flood

in order to prevent the country from becoming alternately swamp and desert, and large supplies of wheat, dates, and other foodstuffs could then be produced. A governing and priestly class grew up and appropriated the surplus wealth, and craftsmen developed great skill in catering for the needs of this class. The country lacked some raw materials and products, such as wine, olive oil, timber, stone, wool, precious metals, and spices. These it drew in by distant commerce, sending in return its magnificent "Babylonitish garments", or its products of glass, wood, and metal. Across the surrounding deserts its camel caravans went east and west, as far as the Mediterranean, India and China. Merchandising was one of the chief and most honourable occupations, and the temples became banking and trading centres. A kind of money was evolved, and writing, with queer wedge-shaped characters, became common, with clay tablets or cylinders instead of paper. The Babylonians found solutions for many of the problems of the world in which they lived and of the heavens above them; they began to study astronomy, constructed an ingenious calendar divided into months and weeks, divided the day into hours and minutes, constructed water-clocks and sun dials, found out the use of wheels, devised a system of weights and measures, and probably discovered the value of pulleys and levers and the way to cultivate wheat. These were their services to posterity.

Of other similar civilizations little can be said here. China and India grew strong, thanks to a fertile soil, overflowing rivers and a congenial climate. They evolved rich governing classes and a highly developed

and varied economic life. In spite of their remoteness some of their products penetrated the western markets, especially Chinese silk and pottery—we still call it "china"—and Indian cottons, silk, precious stones, metal-ware, and spices. Caravans found their way through the Himalaya passes or round the north of India, while vessels ventured along the coast to the Persian Gulf or the Red Sea. So in a small way these old civilizations exchanged their treasures, but their

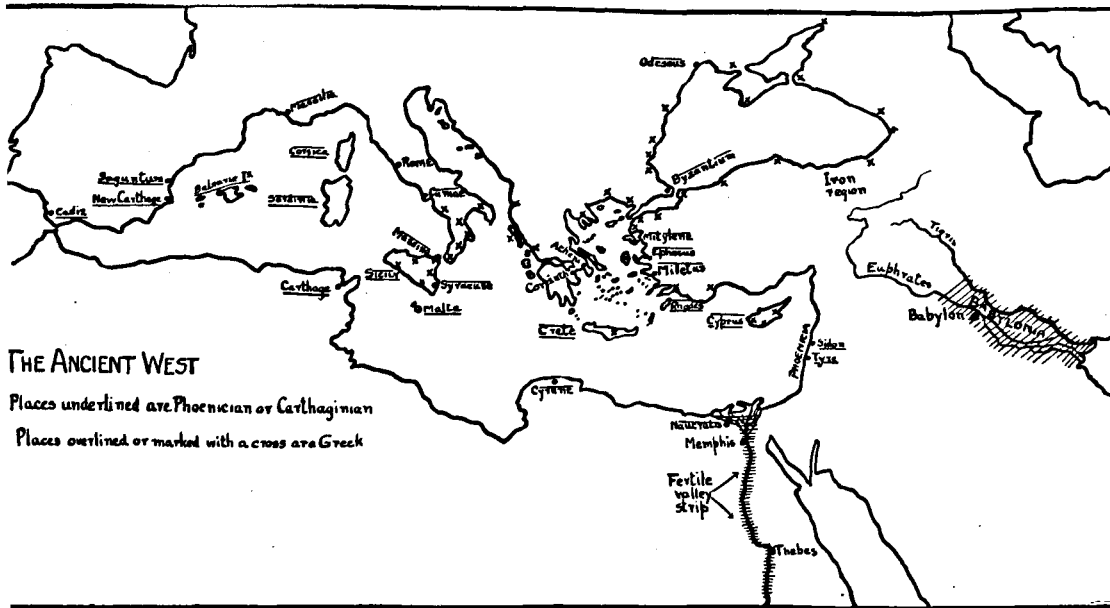


A Caravan in Cathay  
From the Catalan map, 1375

total annual foreign trade could probably have been stowed in the holds of a dozen modern cargo steamers.

**Phoenicia** 2,000-500 B.C. Egyptians and Babylonians were agriculturists and craftsmen rather than traders, and to a great degree they left other people to do the work of fetching and carrying.

The land caravans were conducted by nomadic tribes, and sea trade eventually passed into the hands of the Phoenicians. These people were of Semitic stock; they came from the same race as did the Jews, and, like the Jews, had wandered north-westward from Arabia, a great home of nomadic peoples. Long



before 1500 B.C., they had settled down on the narrow coastal strip north of what we now call the Holy Land. This strip was rich in timber—the cedar and cypress of Lebanon—and in some minerals, but it was of little use for cultivation. The Phoenicians therefore exploited their timber and copper, and took to commerce and the sea. At first they acted as middlemen between Egypt and Babylonia, taking the goods of the one to the other, and supplying each with the timber and minerals of Phoenicia. But when these two great powers declined, they turned to the sea and to the new continent, Europe, which was just emerging from its stone age. They built better ships than had ever before sailed on the tideless Mediterranean, they used sails as well as oars, and learned to guide themselves by the sun by day and the pole star by night. Venturing farther and farther west, they eventually came to the waves and tides of the Atlantic.

The Phoenicians gathered goods from every known part of the world. From the east they secured the fine wares of India, China, and Mesopotamia; from the west they obtained metals—including possibly tin from Britain—and even furs and amber from the Baltic, while from the ports of North Africa they collected the wares of the dark continent. But while they sold other people's goods, they also manufactured their own. They were clever imitators, and lost no time in copying the patterns and products of the old oriental countries. From the workshops of Tyre and Sidon there went fine linen and purple raiment, glass-ware, and richly designed metal plates and drinking vessels. We can well imagine how these luxuries dazzled the eyes of Greek, Spaniard, and early Briton, and how a little luxury purchased a lot of tin, silver, or lead. We can well imagine that many of these wares, described as "genuine" Indian, Egyptian, or Chinese, were really made for the export trade in a Phoenician workroom.





**Phoenician Traders in Britain**

From the painting in the Royal Exchange, London, by Lord Leighton

The Phoenician was thus merchant, manufacturer, navigator, shipbuilder; he was also a colonizer. As he pushed along the Mediterranean he planted a string of trading stations, in Cyprus, among the islands around Greece, and later as far west as Sicily, Sardinia, the North African coast, and Cadiz in Spain. At these ports of call he picked up the products gathered in from the surrounding country, and gained a monopoly over the supply.

**Carthage** One of these colonies, Carthage, rose to great power, challenged the trading power of its parent, and for a time threatened the progress, and even the very existence of Rome. For Carthage in its prime stood astride the Mediterranean, with one foot in North Africa and the other in Sicily. Merchants flocked there when their Phoenician home was threatened by attacks from Persia, and brought with them the old skill and resourcefulness of Tyre and Sidon. So Carthage, ruled by an aristocracy of wealthy merchant princes, made the western Mediterranean "a Carthaginian sea"; it controlled southern Spain, sent its boats out beyond the Straits of Gibraltar to gather in the wares of Atlantic Europe and Africa, while caravans from Egypt and the Sahara brought in gold, ivory, ebony, feathers and slaves.

**Greece, 1,000-300 B.C.** We usually think of Greece as a land of sculptors, dramatists, philosophers, orators and warriors; but "the glory that was Greece" rested on a commercial foundation, for the country could live and be wealthy only by producing and trading. The Greeks were a pastoral people who came down from the Danube regions, but when they entered the mainland peninsula they

found themselves in a trap. For they had come into a land of small islands or of narrow valleys divided by steep mountain ranges; there were no big areas on which they could pursue their nomadic pastoral career, and when they tried to turn to agriculture "they found they were ploughing stones". So they had to make the best of a bad job. They learned to terrace the hill-sides and plant vines and olive trees; wine was for them what tea or coffee is for us, and olive oil took the place of our butter. On the hill-slopes was room for some goats and sheep; underground lay rich deposits of certain metals, especially silver, while in the shallow waters around the coasts were abundant supplies of fish. But there was little room for wheat fields, little elbow room for anything except vines and olives and cities, and eventually, as population grew, many Greeks must emigrate.

Such conditions sharpened men's wits, and made commercial activity almost essential. Hence, while at first the Greeks were willing to hand over their surplus goods to Phoenicians who came to their ports and islands, they eventually learned to do their own trading, build and navigate their own ships, establish their own colonies, develop their own manufactures, and devise a currency that brought coined money into general use.

Greek trade was almost entirely sea trade. The ranges made land traffic impossible; "the land divides, the sea unites" in Greece, and since the sea was tideless it was easy to float boats or enter a harbour at all times, to run small ships ashore, pull them a few feet out of the water and leave them in safety. Although the Greek came originally from the big land areas of the north and was a "landlubber", he soon took like a duck to the water, and steered his vessels to every part of the Mediterranean and the Black Sea. Eventually he

organised shipping services to the more important ports during the summer months, with regular freight and passenger fares. Trading companies were set up, insurance was highly developed, while the temples and private banks lent money and did a regular banking business similar to that of today.

At first the exports were chiefly food and raw materials, such as oil, honey, wine, metals and marble. But as Greek skill and craftsmanship developed, the export of manufactured wares became very important. Corinth



A Greek lady being measured for a pair of shoes. From an Athenian vase.

became famous for its pottery, Athens for its vases and bronze or marble statuary, Miletus for its rich wool-len fabrics, Ephesus for its silverware. So successfully was this trade fostered that eventually, the ancient world, once dominated by Oriental culture, was "reading Greek books, using Greek utensils, fitting up its houses

with Greek furniture, decorating its house interiors with Greek paintings", and wearing Greek fabrics. In return that world supplied Greece with the things she could not produce for herself—wheat from the Black Sea, Sicily, and Egypt, gold from the Urals, timber and iron from Asia Minor, metals and wool from Spain,



**Loading a Greek ship—Weighing and stowing the cargo.**

King Arcesilas of Cyrene is shown superintending the export of silphium, a spice or medicine extensively used in the Greek world. The lower part of the picture shows the hold of the vessel, the upper part the rigging—where a monkey and birds are perched. The vase on which the picture is painted was made in Cyrene and found in Etruria; at present it is in the Louvre.

silk, cotton, and precious stones from the East, linen and paper from Egypt, ivory from Central Africa, and probably tin from the "Tin Isles", *i.e.*, Britain.

Greek trade flowed from a large number of independent city states. History, and still more geography, prevented Greece from ever becoming a united nation, or even a federation of states such as Canada or the United States. The city and the land immediately around it was the state, small in area and in population; almost every valley and island housed a separate state. Between some of these states there was keen trading rivalry, which helped to make political relations bitter and prevented the states from standing shoulder to shoulder when the country was menaced by big powerful enemies from the north-east. This inability to unite finally led to the overthrow of Greek independence.

The Greeks followed the example of the Phoenicians by planting colonies. But the Greek colony, though it was partly a warehouse for gathering in the produce of the back country, was really more than that. Often a colony was a receiving house for the surplus population of an over-crowded city state; it was founded by the parent state, and became a settlement as well as a trading post. The settlers developed agriculture and sent their surplus home; on the north shore of the Black Sea they taught the natives how to grow wheat and so made the Black Sea area a Greek granary. Between 750 and 550 B.C., hundreds of colonies were founded; they were thickest in Sicily, Southern Italy, and around the Black Sea, but they were also found as far apart as France, Spain, and Corsica in the west, and the mouth of the Nile in the east. As one Greek said, they sat around the Mediterranean like frogs round a pond.

Many of these colonies eventually became important trading and industrial centres, rivalling the parent city

in the extent of their activities; some of them in their turn sent out colonies, and so the Greater Greece that stretched from the Black Sea to the Straits of Gibraltar was a group of families of mother, daughter and granddaughter. But the mother interpreted her parental rights in a liberal manner, and gave the colony freedom of trade and self-government. There was no attempt, as in the case of Phoenicia, to demand that a colony should exist solely for the benefit of the parent and trade only with the city that founded it. Not for a long time after the decline of Greece did any colonizing power adopt such a liberal attitude towards its children.

**Rome.** Between 400 and 300 B.C., Greece lost her freedom, though her industry, commerce, 700 B.C.— and culture survived and continued to influence the Mediterranean world. By that 500 A.D. time a new European power was rising, this time in Italy. Rome began as a republic of self-sufficing farmers, led by a body of aristocrats. The farmer tilled his land with the aid of a few slaves; he fought in the legions when necessary, and then went back to his plough. Industry was primitive, commerce small, and the petty Roman merchant found it hard to make headway against the competition of Greek and Carthaginian rivals.

Once Rome had become mistress of the Italian mainland, she looked for more worlds to conquer. Between 265 B.C. and 146 B.C. she waged three wars against Carthage: in the first she took Sicily, in the second she drove her enemy from the western Mediterranean, and in the third she destroyed the city of Carthage itself. Once started on the career of foreign conquest, Rome showed no desire to stop, and since there was no big power to bar her path she eventually spread her rule over an empire stretching from the Caspian Sea to the

Atlantic, and from the fringe of the Sahara to the Danube, the Rhine, and the Tweed.

To this vast empire, Rome gave peace and order, law, roads and bridges, freedom from piracy, towns, and one big market. Where the soldier and road-maker travelled first, the trader came after, and commerce



Roman bas-relief of a pork-butcher's shop. The butcher cuts up a joint, which his wife writes the accounts. Note the scales on the right.

and production flourished everywhere. But the conquered areas had to pay a price for these benefits, and each year were compelled to pay large sums of tribute to the victor. These payments were made in the produce of their land, mines, and manufactures. In its prime Rome "was importing food and luxuries of all kinds, and in return it was exporting governors, soldiers, and policemen". Further, the wars created opportunities for "profiteering" and produced a rich class; men



sent out to govern the provinces or collect the taxes found ways of making fortunes, and those who secured contracts for erecting public buildings or fitting out the the army and navy accumulated large profits. These fortunes and profits often flowed to Rome in the form of goods, and thus Rome imported far more than she exported. She was a "commercial sink".

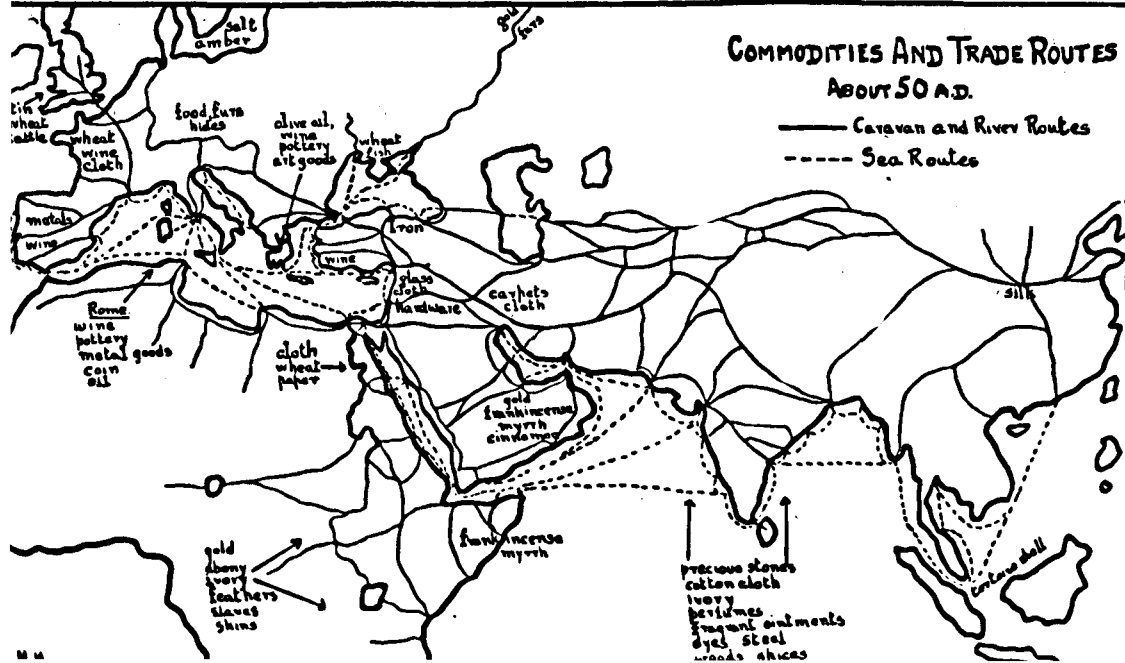
In addition to catering for the rich the provinces fed the poor. The long wars took the farmers away from their farms, and those who returned had lost the taste for farming or the skill required; or they found their lands wild and neglected, or discovered that the produce from the provinces had stolen their market. So the "peasants of the Tiber" sold their holdings to the new-rich, who worked large estates with armies of slaves, while the peasant drifted to the towns, there to be maintained by the state with free bread, wine, meat and amusements.

For rich and poor the provinces sent their goods—wheat from Egypt and the Black Sea; wine, wool, fruits, and minerals from Spain; tin, lead, and cattle from Britain; wine, honey, copper and marble from Asia Minor. From beyond the Empire came the usual rich products of India and China, together with rice and sugar, which for the first time appeared on European tables. No earlier civilisation had witnessed such lavish display of unearned luxury as that of Rome during the first two centuries of the Christian era.

After about 200 A.D., Rome's strength began to ebb away. The causes, political, economic, and social, were many. The government became corrupt, tyrannical, costly and incompetent. It crushed the farmer and middle class with taxes in order to wage war, appease the city mob, and erect palaces and other fine buildings. It issued rules and restrictions which crippled private

### COMMODITIES AND TRADE ROUTES ABOUT 50 A.D.

———— Caravan and River Routes  
 - - - - - Sea Routes



M U

enterprise and initiative. Rival emperors fought each other; twenty emperors met with violent deaths in a period of about seventy years, and while this civil war was being waged the long frontier was less and less successfully defended.

Behind a front of wealth and luxury serious economic weaknesses were found. The large estates grew in number, and the farmers sank into the position of serfs, bound to the soil and its big owner. Industries, carried on largely with slave labour, were inefficient and unprogressive, and Rome added scarcely anything to our knowledge of how to make things. The Roman worker was beaten in almost every market by his more skilled and ingenious Greek or Syrian rival. Further, there were very few things Italy could export to the Orient in order to pay for the goods she wanted from Asia. With perhaps two exceptions—wine and coral—there was nothing Asia wanted from Italy; so payment had to be made largely in precious metal, and there was a persistent drain of Roman money to India.

Other factors played their part. Pestilence, brought back by armies from the East: a probable exhaustion of the Italian soil: vice, the decay of old religions and rules of life: bitter class struggles, more public holidays, the decay of family life and domestic virtues, all helped to rot the fabric of Roman civilization.

In 330 A.D. Constantine moved the centre of the Empire to Constantinople. In 395 the Empire was definitely divided into eastern and western parts, with an emperor for each. The Eastern Empire eventually gained in strength, and lived on till 1453. The western half was soon smashed to pieces by barbarian invaders. Rome was sacked, the Emperor deposed. But these events were merely the end of the end. The barbarians were not murderers of a healthy organization. They

merely buried a power that was already dead, dead by suicide.

By 500 A.D., the Roman might is broken in the west, though a so-called Roman Empire lives on in Constantinople; the Christian Church has sent its roots so deep that it is able to bow to the north-east wind but not be blown over; and Roman law is not quite smothered. But the old peace and tranquillity are gone, the old ease and safety of trade and travel are ended, the old world market is closed, and new more primitive peoples occupy the centre of the stage. How they set that stage, and what parts they played on it we shall see in the next chapter.

**Supplementary Reading.** Van Loon, "The Story of Mankind," early chapters; Wells, "Outline of History"; Robinson and Breasted "Outlines of European History", part 1; Stephenson, "Principles of Commercial History", pp. 1-54; Day, "History of Commerce", pp. 9-30; Zimmern, "The Greek Commonwealth", chap. 11; Fowler, "Rome"; Marvin, "The Living Past", chaps. 2-6; Gras, "History of Agriculture", chaps. 1-3; Knight, "Economic History of Europe to the End of the Middle Ages, chaps. 1, 2.

## CHAPTER III.

### THE MIDDLE AGES

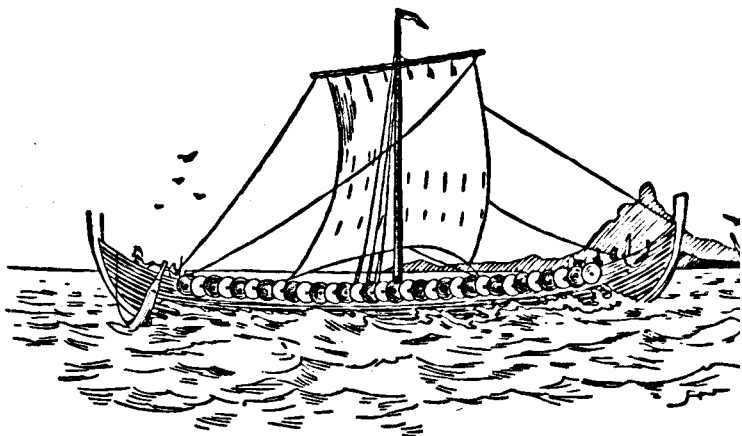
By 500 A.D., the Roman Empire in western Europe had fallen to pieces. By 1500 Columbus, Cabot, and Vasco da Gama had discovered new worlds or new sea routes, and Caxton had set up the first English printing-press. Those thousand years comprise a period we call the Middle Ages. When that period began, barbarian tribes were swarming over Europe; when it ended, the descendants of those tribes were making ready to explore new continents. When it began, the structure of Mediterranean trade built up by Phoenician, Greek and Roman was being wrecked; when it ended, trading activities were being inaugurated that ranged over nearly the whole globe. In 500 a large unified Empire and system of government had lost its power; in 1500 strong new national states had emerged. In 500 the Mediterranean was the centre of European affairs; in 1500 that centre was moving to the Atlantic coast of Europe.

Of the first five centuries little need be said. They have become known as the Dark Ages, and if we admit that sometimes the dark was only dark grey, the term fits the period.

During the 5th and 6th centuries Europe was the scene of confused wanderings, generally southward or westward, of "ignorant, simple, vigorous people, with no taste for anything except fighting, eating, and drinking". The wanderers laid their rude hands on every area, from Gaul and Britain in the north to Spain and North Africa in the south. East Goth, West Goth, Frank, Burgundian, Angle, Saxon, Lombard,

their name mattered little; they were all fierce fighters and efficient plunderers, and even when they were converted to Christianity they often found in the new religion little more than a fresh supply of battle cries. Towns were laid in ruin, libraries burnt, monuments overthrown, roads left to fall into disrepair, harbours neglected; nearly all the material-equipment of the Roman age was destroyed or allowed to go to pieces.

The wanderers settled down finally in various localities, but not to peaceful life. Local feuds and private wars, conflicts with neighbours, personal rivalries between leaders, all kept western Europe in a dreary tumult. Then, to make matters worse, further waves of invasion



A Viking ship

came from north or east. In the early seventh century Mohammed, an Arab camel-driver and merchant, sowed in the hearts of his fellow-tribesmen the seeds of a new religion, which called on its devotees to go out

as missionaries, with the sword in their hands and the name of Allah on their lips. Their fiery crusade led them to the conquest of Syria, Egypt, Carthage, and so, across the Straits of Gibraltar, to the conquest of Spain. The Mohammedan menace was checked at the Pyrenees, but pirate craft from North Africa harassed the Mediterranean for centuries.

Europe's troubles were not yet over. In the 9th and 10th centuries the Vikings swooped down from Scandinavia in their fast-moving boats, and spread terror over the west coast of Europe. They sailed up the rivers, to plunder, to slay, and sometimes to settle. While the Norseman scourged from the sea, the Magyar, or Hungarian, swept down by land from the east. The latter was an Asiatic nomad, who lived by hunting and fighting; he was a skilled rider and archer, and when he struck at the settled areas of Central Europe his barbarous conduct made his name a byword for cruelty.

An age so harassed had little time or inclination for trade; to keep alive, to escape the ravages of civil war or invasion, and to satisfy the most pressing wants of life, these were achievements enough. But eventually the dark gave place to dawn; by the 11th century order was being established, the way was being opened for the development of commerce, old towns were being revived or new ones established, and the frontiers of Christendom were becoming comparatively secure. Mediaeval civilisation was taking shape.

The material foundation of that civilisation was feudalism, the spiritual foundation was the Church. Feudalism was in part a logical product of the helplessness of the Dark Ages. In times of raid or strife the man who could use his strength, ability, or equipment to give protection would find plenty of folk ready to flock under his wing;

they would commend themselves to his care, giving him in return the power to command them, to make them fight as his soldiers, and maybe to claim their land as his property. But while some men surrendered freedom for security, others came under the strong man's control when he took for himself a slice of country or was put in charge of it by some superior lord or king. Thus men subjected themselves or were forcibly subjected to a master.

Feudalism developed most highly in northern France, England and parts of Germany. At its head was the king who was landowner-in-chief of the whole country. Some of the land he kept in his own hands as the *royal domain*, and the revenue from these crown estates supplied him with a large part of his income. The rest of the country he handed out to his chief warriors and supporters, not as a gift, but on a kind of perpetual tenancy, for which the tenant was to pay rent in money and military services. The tenant-in-chief reserved some of his land as his domain and source of income, and let out the rest among sub-tenants on terms similar to those demanded of him by the king. This sub-letting might go down through still more stages, till we come to a tenant with only one small estate which was barely sufficient to "support him and provide the horse upon which he rode to perform his military service for his lord."

When we look at the land of which we have been talking, we find it dotted with a few **Rural Life** towns, especially in Italy, Flanders, and along the German rivers and coast; castles and abbeys are scattered about; we notice straggling tracks that serve as roads; but chiefly we see the habitable parts of Europe sprinkled with small villages, or *manors* as they were called. Till the 19th century



most of European life was village life, and the great majority of the people were engaged in agriculture. The village consisted of a string or group of miserable cottages, a church, a flour-mill, a manor house in which the landlord or his representative resided, a bakehouse, possibly a brewery, a dye-mill, and a smithy. The rest would be meadow, pasture, and ploughed fields, and beyond them an expanse of woodland, waste, or swamp that stretched away to the borders of the next village.

Some of the village land was retained by the landlord as his domain; the rest was leased to the villagers, who paid their rent for it partly in kind, *i.e.*, wheat, oats, poultry, eggs, bread, hay, meat, or ale, partly in money, but chiefly by working two or three days each week on the landlord's domain. As the noble served the king by fighting in his battles, the serf paid his landlord by tilling his land, gathering in his harvest, carrying his baggage when he travelled, helping him to hunt, and chopping his firewood. In some parts of Europe this payment of rent in labour and kind continued till the 19th century, but in England the peasant had succeeded by the 16th century in changing his labour services into money payments.

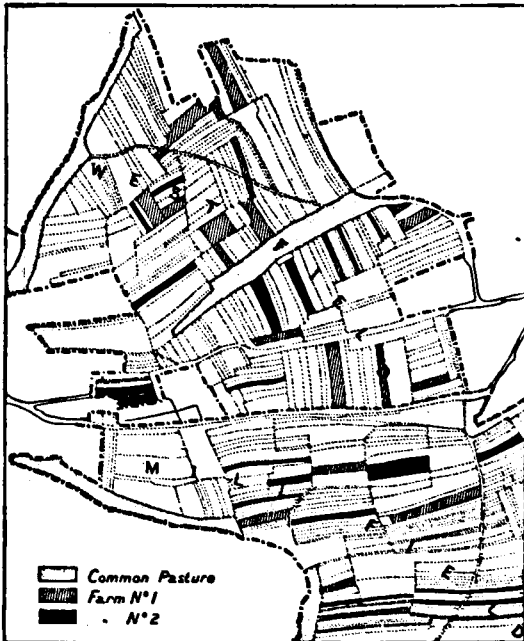
The landlord had other things to sell besides the use of his land. He alone had the right to own such "public utilities" as flour-mill, bakehouse, wine-press, oven, dye-vat, and fulling-mill. The tenants were forced to come to him to have their grain ground, their grapes pressed, their bread baked, or their cloth cleaned and dyed. For each of these services a small payment had to be made; sometimes the landlord sold or leased his monopoly to some person, who thus became the official miller, baker, or dyer for the village; and even where the landlord had no right to claim a monopoly he often forbade persons to brew, dye, or full cloth unless they had his permission and paid a license fee.

The landlord or his representative was also the local judge, and from the records of the manor courts we get intimate pictures of mediaeval life. We see one man given the office of village dyer or fuller, paying four shillings a year—a sum probably equal to \$30 today—“so that no other is received to perform that office”; another man is fined for carrying on an occupation without having paid the necessary fee; another is punished for digging coal or cutting down oak trees without permission; another for “opening the soil of the lord to dig coal”, another for digging a pit in the middle of the highway. Bakers are fined for selling bread short-weight, butchers for selling “putrid and unwholesome flesh and likewise very dear”, while brewers, who are nearly always women, are punished for brewing weak or bad beer or because “they did not send for the ale-tasters”. Fathers come into court and pay for permission to marry their daughters where they wish, or for permission to allow their sons to be “crowned”, which meant to have the top of their heads shaved and become priests or monks.

Finally, the court dealt with cases of human frailty or wickedness. It dispensed justice when the weaver stuck a knife in the chaplain; when John's dog chased William's sheep; when Annabella “drew blood” from Alice her sister; when the ale-taster failed to come to court to report against bad brewers; when Adam and Alice “defamed Agnes by calling her thief and stating that she stole her neighbour's cow” and when Agnes, in revenge, “assaulted Alice and took her by the throat in her house and inflicted other enormities upon her”. It punished three men who “disturbed the lord's court by chattering”, fined Hugh, who kept the lord's bailiff indoors by refusing to mend his shoes, and dealt with William for “beating the constable to the shedding of blood”. It protected the village against Thomas and

John, who stayed up at nights "and went round about within the town with linen sheets over them and les ratyls (rattles) in their hands as if they might be malignant spirits, so that no one dared go out of doors at night, to the grave annoyance of the common people".

In the intervals of working on the lord's domain the villagers looked after their own land or livestock. Some of them had about thirty acres of arable land, others only a few. This land was not all in one solid block, as is the case today, with a fence or hedge round it,



A Typical "Strip" Farm or Open Field

The arable land of the village was divided up into a number of large fields, which in turn were cut up into long narrow strips, possibly an acre or half-acre in area. A tenant's arable holding would consist of a number of these strips scattered all over the ploughed fields of the manor; even as late as the 18th and 19th centuries this strip system survived in many parts of western Europe, and we know of people in 1800 who had 166 acres in 217 strips, 80 acres in 164 pieces, and two acres in six bits. Between the strips lay a *balk* of unploughed land, and the fence which surrounded the whole field was opened after harvest so that the cattle could graze on the stubble.

On this land the peasants grew their meagre crops. Usually they divided their fields into three groups; on any one they grew wheat or rye—the bread crop—in the first year; barley—the drink crop—in the second year; and they left the land fallow, so that it could recuperate, in the third year. The waste of land in balks and fallow was great, the waste of time in getting from strip to strip was equally great. Around the ploughed lands lay meadows from which hay was obtained, and open common pastures—the village green—on which poultry and cattle roamed and hunted for food. In the woods the pigs searched for nuts and acorns.

Such a community was largely self-sufficing. There was some division of labour, for the fuller, dyer, baker, smith, brewer, and miller carried on specialized occupations, though there was probably not enough work to keep them busy all the time, so they might do some farming as well. What the village could not produce for itself it did without, unless it was near some town or on some frequented road or navigable river and so was influenced by the stream of trade that flowed past

it. Internal trade was a matter of exchanging simple necessities such as bread, beer, and the products of the blacksmith's shop. External trade was confined to securing essentials that the village could not possibly produce. Iron had to be brought in for the blacksmith to turn into shoes, plough-shares and reaping hooks; salt was needed when the peasant killed the cattle and swine for which he had no winter food and prepared his stock of salt beef or pork; fish was wanted for Friday; tar from Norway was the only known dressing for sheep scab, and the millstones of Paris excelled all others for grinding grain. In exchange for these few commodities the village had little but wool, grain, and hides to spare. When the peasant, out of his crop of six bushels an acre, or his wool-clip of a few ounces per sheep, had paid his dues to his landlord and laid aside a food supply to last till next harvest, he had little surplus with which to buy goods from the outside world.

The mediaeval village was therefore wrapped up in itself. It knew little of neighbouring villages, and regarded those who did not live within its borders with hostility or suspicion; they were "foreigners". Villages ten miles apart sometimes talked quite different dialects, and their inhabitants might find it difficult to understand each other's speech. Even in the 19th century this isolation still continued in many parts of Europe. As one writer says, speaking of conditions in a Yorkshire village in 1870:—"To all intents and purposes our little world was our parish boundary. Beyond that lay the great world, of which 99 out of every 100 of us knew literally next to nothing. . . . People used to talk of adjacent villages as if they were a thousand miles away", and the man who was leaving for London, 200 miles distant, first made his will and bade his friends a sad goodbye.

**Rise of Towns** While the feudal village pursued its self-sufficing way, towns were growing up, and by about 1100 the commerce that had been almost killed by the barbarian invasions was showing signs of new life. That commerce was stimulated by the establishment of more settled conditions of life and government, and it was given a great impetus by the renewed contact with the luxuries of the East. Contact was made through the endless flow of pilgrims to the Holy Land and through the Crusades. The ships that carried Crusader and pilgrim brought back Oriental finery, which was soon spread among the rulers and nobles; and the European craftsman in some districts deserted the making of his crude, homely, homespun goods in order to try and make things that would vie with the Eastern wares. So from the East came one more incentive to better production and more active exchange.

The mediaeval town was primarily a trading centre, but its origin and situation were often determined by considerations of defence as well as of trade. A town might grow up under the shelter of some fort or castle, under the wing of some abbey, or around some frontier outpost. It might have a wall round it, inside which the houses would be crowded in mean narrow streets, and only when walls ceased to be a protection against attack did dwellings rise outside the ramparts.

But trade factors became more important as life became less turbulent, and so the chief trading centres sprang up at the highest navigable point of a river or the highest point reached by the tide, *e.g.*, Rouen, Exeter, Norwich, London; at a place where roads or trade routes crossed each other or came to a navigable stream, *e.g.*, Cologne or Moscow; at a spot where a river was bridged or could be forded, *e.g.*, Cambridge, Stourbridge, Oxford, Hereford; or around some shrine, holy place,



**A Mediaeval Walled Town**

cathedral, royal court, or fair, where many people gathered together at certain times or seasons. Or a town might grow out of a village which had some special natural resources such as minerals or which lay in the centre of a district producing a surplus of food or raw materials.

Though a town grew in size and importance it still retained some features of rural life. Its craftsmen and traders might supplement their income by tilling the land round the town or grazing cattle on the green. Pigs and poultry roamed about the street, which was the mediaeval garbage pail. In 1377 the city fathers of York, which at that time was one of the largest trading centres in England, made the following decree:—"If any pig is found going within the said city by night or by day, his owner shall pay 4d., or the serjeant or other who finds it, as well within the high street as within the lanes of the city, shall detain the said pig, and if it pleases him he shall kill the said pig and keep its four feet until he be paid the 4d. No men of the city shall take their horses to drink at the waters of Ouse out of hand, driving them before them, which is a great peril to the children playing within the city". Bristol punished the wandering pig by fining its owner sixpence "and the tail of the pig shall be cut, whereby it shall be known again, and if the same pig be again found wandering, let its head be cut".

**Civic Freedom** In the eyes of the landlord the town was merely an overgrown manor, and the townsmen were serfs; they were bound to pay him tribute in kind or money, bound to work his lands, unable to make or trade without his consent, and liable to be tried in his court. Some of these feudal bonds must be broken if industry and trade were to grow,



so the townsmen began to take steps to shake themselves free. Sometimes they got what they wanted by bargaining with their master, offering to pay a lump sum of money or an annual contribution, and many a lordly Crusader who wanted cash for his journey to the Holy Land or for a ransom to release him from captivity jumped at the town's offer. Sometimes they went behind the back of their feudal lord and made a bargain direct with the king. Occasionally, especially in Italy, where feudalism was never strongly established, they sided with a bishop in his quarrel with a baron, or *vice versa*, and by demanding a high price for their support emerged free of both baron and bishop. Sometimes, as in Flanders, they were strong enough to end futile bargaining with an appeal to arms, and defied their master on the battlefield. But whatever the method, they obtained, either in one grant or in a series of concessions, much or all of what they needed for the expansion of their industry and trade.

The "all" meant complete self-government and the snapping of all feudal fetters. Some towns became independent city states, republican in government, and ready to send their burgesses out to battle if need arose. Others had to be content with a measure of local freedom in trade and municipal government, but remained loosely bound to a superior lord. The Italian cities were completely free, those of Flanders almost free, but in France and England the power of the crown was too great, and complete independence was not obtained or even sought for. But all of them got three things. (1) *Financial privileges*. A town agreed to pay a fixed sum in taxes to the king or in dues to the landlord, and was then left free to raise the money in any way it thought best. (2) *Judicial privileges*. The citizens gained the right to have their own court and

municipal council; they could make their own local by-laws to govern the life of the town, and the mayor became what he is still popularly called—the chief magistrate.

(3) *Industrial and trading privileges.* These were many, varied and valuable. The first was control over the weekly market. The right to hold a market had been one of the landlord's feudal rights, and he had charged a toll on every article sold there. Now the town took charge of the market, collected the tolls, and regulated the whole conditions of sale to suit its own ideas. The second privilege was freedom to travel and trade through the neighbouring countryside or throughout the whole kingdom, and even to send goods abroad. Such freedom could be obtained by securing exemption from tolls as one travelled about with goods, or even from customs duties when one imported or exported commodities. How serious this burden of tolls was we shall see later; to shed the burden from one's back was to receive great relief in trading activity. Another privilege was exemption from the obligation to use the lord's mill, oven, or other public utilities.

The grant of these privileges helped the towns to develop their industry and expand their trade. But while a town shook itself free from some of the control from above, it did not leave its citizens free to go their own way. The mediaeval manufacturer or trader would have blinked his eyes in surprise had he been told that one day a policy of free enterprise would prevail. He worked amid a maze of regulations and restrictions. Commands—sometimes beginning with "Thou shalt" and sometimes with "Thou shalt not"—descended on him from the town in which he lived, from the gild of which he was a member, and from the King's court, council, or parliament.

The town's first commercial task was to control the weekly market, where town and surrounding country exchanged local products, and to watch those who sold foodstuffs and drink. The town had to see that its people got their supplies at a "just" or "fair" price, that they were not exploited by any monopolist, that the quality of goods was satisfactory and full weight or measure given. The mediaeval world was not aware of the existence of a "law of supply and demand," and did not see why prices should be high because there was a scarcity of produce; it did however perceive that a man who tried to "corner" supplies and charge high prices was acting unrighteously. It therefore periodically issued an *Assize*, fixing prices and demanding good quality and honest measure of foodstuffs. Bakers and brewers were ordered to sell only what was "good and wholesome for man's body"; the brewer in one place (Gloucester) was told to sell "a galon of the best ale for a peny, and of the second ale iii. galons for a peny. . . . xiii. galons for xii. of good mesure, under the payne of forfeiture of the saide ale and vis. viiid." Butchers were to sell only "good vytaill" and not handle "rotyn shepe"; coal dealers were to sell by bushel measure "up hepyd" (heaped) under pain of having their coals forfeited and their sacks burned; candle makers must "make good lyght and sufficiently well brennyng (burning), not disseyvng (deceiving) the Kinges liege people". Partly to prevent "cornering", and partly to prevent evasion of market tolls, the town decreed that all who brought grain to market-must "pycche all there bagges in ye comen markt", and that no citizen or stranger buy any corn while it was still "on ye horses backes", but wait till "ye bagges be picched in ye comen markt",

under pain of forfeiting the corn. Often the "strange or forener" was forbidden to buy any grain in the market except for "ye sustentacion of his howsehold", for he was allowed to take away the locally-produced supply; the burgesses might have to go short of food, and famine was an ever-present fear in the Middle Ages.

The second regulator of industry and  
**The Merchant** trade was the gild or group of gild  
**Gild** that grew up in most towns during the  
 later Middle Ages. The first gild  
 formed in a town was usually the merchant gild,  
 a body that consisted of all who bought goods to sell  
 again, including petty traders such as fishmongers and  
 butchers, and also those who worked raw materials into  
 partly or entirely finished products before selling them.  
 Sometimes the merchant gild dated back to the early  
 11th century, and was formed before there was a  
 municipal government; occasionally it led the fight for  
 municipal freedom, and made treaties with king or lord  
 that freed the townsmen from the feudal  
 yoke. But with the growing strength of the civil  
 authority the gild tended to become a subordinate part  
 of the machinery of town life.

The merchant gild aimed at two things—a monopoly  
 for its members over the trade of the town, and privilege  
 and facilities for trading beyond the town. No non-  
 member could carry on trade in the town, except with  
 the consent of the gild; sometimes it may have been  
 fairly easy for strangers to get that consent or even to  
 be admitted into the gild on payment of the necessary  
 fee; but since the gildsmen were seeking exclusive and  
 profitable privileges for themselves they would not be  
 very generous in admitting outsiders in an age when  
 those who lived in other towns were grouped with those

from other lands as "foreigners". Sometimes the stranger was allowed to sell goods, provided he sold wholesale and only to the gildsmen; sometimes all members of the gild had the right to share in any bargain made by one of their number, even if they had not been in the market when it was made.

The merchant gild strove to get for its members freedom from tolls, "pontage, passage, pesage, lastage, stallage" and other payments that had to be made to the king or local potentate through whose land a merchant might wish to pass. Finally, the gild organised social functions and feastings, cared for its sick or poor members, and thus acted as a friendly society.

Following closely on the heels of the merchant gild came the craft gilds, and by 1300 most large towns housed a number of these smaller and more specialized associations. We do not know exactly how they came into being, but probably they came in various ways. Some were established by royal charter; others probably emerged when there were sufficient men doing the same kind of work in a city to justify the establishment of a gild to regulate their calling; some were set up by the city fathers, who called the men working in a craft together and then asked or ordered them to form a gild to control the occupation in which they were employed.

The craft gild differed from the merchant gild in that the former had as members only those who did one special kind of making or selling, while the latter admitted all sorts of makers or traders. As a town grew, the number of occupations grew also, and trades became more clearly separated. Some who had been petty general traders took to "grete aventour" in large-scale foreign trade, building up fortunes that made them merchant princes. Others made no attempt to imitate

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their more ambitious neighbours, but developed specialized manufactures or retail trades such as weaving work in metals, drapery, tailoring, the making and selling of hats or gloves, etc. For the regulation of all these varied activities the merchant gild was inadequate and the city authorities had not the time or expert knowledge for the task. So the craft gilds came into being to do the work.

In big towns the number of craft gilds was large.—London, for instance, in 1420, had about a hundred Paris (1270) had 70, York (1400) nearly 60, and Bristol had 26, including gilds of weavers, dyers, fullers, fish mongers, tailors, tapsters, cobblers, barbers, and barrel makers. Each was governed by a Master or Warden elected by the members ; he presided at gild meetings and saw that the by-laws or ordinances framed at these meetings for the control of the industry were observed.

The aim of the craft gild was to further the welfare of the industry and those engaged in it. This was done in many ways. (1) The gild had a monopoly over the occupation in the town and neighbourhood. No one within a radius of twelve miles of Lincoln could make certain kinds of cloth unless he was a member of the Lincoln weavers' gild. The Bristol barbers complained in 1418 that "divers people, ignorant of and unlearned in the craft, such as tailors, weavers, fullers, mariners, smiths, and others, use continually daily to poll and shave divers people" in violation of the monopoly enjoyed by the barbers' gild. Strangers coming to live in a town had to pass a searching examination of their skill and character and pay a large fee before they were admitted to the gild; but they must be admitted if they were to find work in their new home.

(2) In order to maintain the quality of work and to restrict the number of people in the trade, no person

was admitted to the craft unless he had served an apprenticeship, generally of seven years' duration. At the end of that time he might become a journeyman



A test of skill for admission to a Gild

wage-earner; or if he had the necessary supply of capital he might, after passing a stiff examination and paying an entrance fee, be admitted to the gild and allowed to set up as an independent master-craftsman.

(3) As a check on bad work, on the tricks of the trade, and on unfair competition, the gild framed many regulations and sent searchers or inspectors round the houses or workrooms of the guildsmen to enforce its decrees. Work at night and on Sundays or saints' days was forbidden, since work by candlelight would be inferior, while those who worked at night would disturb their neighbours, and Sabbath-breaking was improper. The Bristol weaver caught three times working at night was suspended from his trade for a year and a day; the Bristol barber could not practice "his craft in tonsure" on the Sabbath, except for the benefit of strangers coming suddenly to town, and the payment he received for this emergency work was to be given to the poor. Bad workmanship was punished in many ways; faulty wares were confiscated, the maker was fined, and on the third offence he might have his implements broken or burned and be dismissed from the craft. In order to help the searchers and prevent fraudulent practices, men were often forbidden to use cellars or garrets, and were told to work in shops or halls "next the road in sight of the people".

(4) In the interests of fair competition the guildsman was forbidden to try to entice a workman or apprentice from a rival, by offering him better wages, before he had finished his term of contract or training with his master. Similarly, no master was, by bribes or presents, to try to induce other people's customers to give him their patronage, or send his servants out of the city to seek the custom of strangers coming to town.



(5) The gild regulated labour conditions. It fixed wages, usually *maximum* rates, and fined those who paid or accepted more than was fixed. For instance, the master cobblers of Bristol stated in 1364 that they were "well nigh impoverished by the excessive price of their servants, who are loath to be attendant to the said craft unless they have too outrageous and excessive salary"; so wages were fixed, and any master found paying more than was permitted had to give forty pence to the city and a similar sum to the gild. Hours of labour were fixed, usually *minimum* hours, which ranged from dawn till dusk in winter and from 5 a.m. to 7 or 8 p.m. during the rest of the year. Occasionally the employment of women was forbidden or restricted, either on the ground that they would do defective work or because, in the case of the Bristol weavers, "many and divers of the Kynges liege people, likkely men to do the Kyng servis in his warris. . . . and sufficiently lorned in the crafte goeth vagaraunt and unoccupied and may not have ther labour".

The craft gild was thus a police system, but it was also a brotherhood. It tried to forbid members from slandering and injuring each other, either by exhorting them to be loving and gentle and friendly one to another or by threatening the scandal-monger with expulsion from the gild. It looked after the sick and needy, and sometimes gave pensions to the widow of a deceased member. It might endow a chapel or shrine or pay for the saying of masses for its dead. It held periodical banquets, to which the members came dressed in the official dress, or *livery*, of the craft. It even tried its hand at amateur theatricals, for on Corpus Christi Day the gilds in some towns gave, on movable stages which were pulled through the streets, dramatic representations of scenes from the Bible.

The commercial outlook of many towns was limited to their own immediate neighbourhood. **Foreign Trade** But some looked wider afield to the foreign trade that was growing increasingly important and profitable. As usual, this trade was partly the exchange of the special manufactures of one area for those of another, or of the manufactures of highly developed industrial centres for the food and raw materials of backward regions. The developed centres made the goods, their ships carried them, their merchants sold them. The backward areas had no manufactures for foreign trade, no ships, no foreign-going merchants, but eventually they repaired these defects, and their trade became what we call *active* as opposed to *passive, i.e.*, they conducted it themselves instead of leaving it to foreigners.

The focussing point of this foreign trade was the **Fairs** fair. In the weekly markets town and village exchanged the necessaries of life that were produced locally, and the producer met the consumer, somewhat in the same way as is still done in the market-places of some Canadian towns. But the fair, held perhaps only once a year, was a bigger meeting, to which the neighbourhood brought some staple local product and from which it took away-goods gathered from the four corners of the then-known world. After shearing time a wool-producing district would have its clip to sell; after the peasants had killed the cattle they could not feed during the winter they would have many hides on their hands; after harvest the better arable areas would have wheat and barley awaiting buyers. At the same time the merchants making long journeys by land or sea had to do most of their travelling between March and October, for roads were more than usually bad in winter and the small ships of the Middle

Ages dare not venture out during the period of winter storms. So, since the total volume of foreign trade was small, it was a distinct economy for all interested to know that at a certain date and place certain staple goods would be gathered together for sale.

The power to grant permission to hold a fair lay in the hands of the crown, and the feudal tenants were glad to secure that permission, since the tolls collected at a fair often amounted to a very large sum. Mediaeval Europe was therefore sprinkled with fairs. Some of them were small, lasted only one day, and were little more than glorified markets for the sale of wool, cattle, hides, grain, cloth, horses, etc., and for the purchase by the local residents of things needed for house or land, or of simple bits of cheap finery which were known as "pedlary ware". From these small fairs the staple products were often gathered together and taken to the big fairs, which lasted for two or three weeks and were the scene of very large transactions. The big fair was a temporary town of tents and booths, laid out in streets, on a fair-ground outside some city. It was formally opened with great ceremony; all trade in the neighbouring city was suspended while the fair was on, and the bishop or baron owning the fair made big efforts to encourage merchants to come by protecting them and giving them privileges while there were there. Usually he established a special court on the fair ground, in which trade disputes could be settled quickly, cheaply, and without fussy formality.

This court became known as the court of *pieds poudreux* or "dusty feet", presumably because the disputants came in "just as they were" without waiting to brush the dust of the fair off their apparel. The French title soon became twisted to "pie powder" and the name "Court of Pie Powder" stuck as long as

such courts were held. There was neither pie nor powder about them, but there was an attempt to work out reasonable principles to govern trade transactions and punish fraud in an age long before any body of commercial law had come into being.

Some fairs became famous for the sale of certain staple commodities. The two leading English fairs, held at Stourbridge (just outside Cambridge) and Winchester, were important wool exchanges. St. Bartholemew's Fair in London began as a wool fair; then the sale of cloth became the chief activity; finally sheep and cattle predominated, and although the fair was abolished in 1855, its child, the Smithfield cattle and meat market, still flourishes. In addition to the big staple products there were goods for sale from every part of Europe and beyond. Italian merchants brought luxuries made in Venice or imported from Asia, such as spices, rich textiles, metal wares and glass; Flemish merchants brought fine linen and woollen cloth; French and Spanish traders brought wine and fruit, and North European merchants were there with tar, furs, amber, timber, iron, fish, salt, etc. On the fringe of the buying and selling there was provision of amusement and amazement, for the fairs became the resort of jugglers, conjurers, wild beast shows, human and animal freaks, acrobats, bear-baiters, and other showmen. Those who accepted the invitation "Come to the fair!" went for pleasure as well as business, and when the growth of other methods of trading deprived the fairs of their old importance, they lingered on as a gathering of swings and roundabouts, of peepshows and side-shows, of circuses and travelling theatres, of dwarfs and giants, and often "of drunkenness and much revelling", in which there was "usually more or less bloodshed and some lives lost".

**Obstacles to Trade** The merchants who travelled to town or fair faced great hardships in the pursuit of their trade. Roads were bad, for it was apparently no one's business to make them or keep them in repair. The monasteries did some road-making and bridge-building, but many men looked on the road in the same light as did the rector of one Yorkshire village when he dug up the highway opposite the rectory and searched for stone with which to build his parish church. Rivers might be better than roads, but often they were full of shallows or blocked with rocks and fallen trees. The danger from robbers was ever-present; local barons were sometimes "bold and bad", and regarded the travelling merchant's goods and purse as fair plunder, while even the king and clergy occasionally held the same view. Not till the 19th century did highway robbery become virtually extinct. Hence merchants usually travelled armed and in groups.

Even when road or river was safe, the trader had to meet the claim of one toll-gatherer after another. The feudal lord's right to levy tolls was much abused, especially when in return for the toll the merchant got neither good roads nor freedom from attack. On a long journey as many as a hundred different payments might have to be made, and the total often amounted to more than the original value of the goods,

Sea travel was as beset with danger as was land traffic. Ships were small and not yet well designed for their purpose. The Mediterranean peoples had devised a cargo ship that was broad in proportion to its length, roomy but slow, and unseaworthy when it passed from the calmer waters of the Mediterranean to the Atlantic. The Vikings, on the other hand, made their long journeys to England, Iceland, and North America in long narrow vessels, which, driven by sails and oars, were swift and seaworthy; but the cargo capacity of such boats

was small. It took centuries to evolve a roomy ocean-going craft such as Columbus used, and hence the amount of cargo that could be taken was small, while the rate of travel was so slow that even in the 16th century the journey from Antwerp to Venice and back took eight months, and that from Portugal to the East Indies took over six months.

Seamanship was, like shipbuilding, in its infancy. The mariner's compass was introduced in the 13th century, and gave a much needed help to navigation. Superstition was rampant among sailors, and the fear of the unknown beyond the horizon was strong. If one ventured out of sight of land, might not one eventually be enveloped in the "sea of darkness"? Since the earth was flat, might not a boat that went too far out fall over the edge one dark night? And since experience taught that as one sailed south the temperature went higher, it was tempting providence to go too far that way. Ships therefore hugged the coast, rarely went out of sight of land, and anchored at nightfall. Winter trips were shunned, and navigation closed with late autumn.

Beyond the terrors of nature were the terrors of man. Peaceful going and coming on sea is a comparatively modern condition. A merchant ship might suddenly turn pirate if it saw a weaker vessel or one belonging to another country near it. Between different nations one might almost say that there was a constant state of war on the sea. Even when governments were able to keep their own people in order, organised pirate bands harassed the seas and coasts. The Barbary corsair was a Mohammedan who flayed the infidel by capturing his ships; but many pirates had no religious excuse of that kind, though one Baltic group did have as its motto "God's friend and all the world's enemy". In the intervals of looting ships the pirates raided ports

and coast towns; here they butchered and plundered with the same cruelty as, when at sea, they made their victims walk the plank.

Whenever possible, therefore, merchant ships sailed in fleets at fixed times. Until the coming of cannon, a fleet of merchant vessels would be able to resist one or two pirate craft, and when, later, cannon-carrying men-of-war began to be built as part of a national navy, a large fleet of trading ships was sometimes able to secure the services of a frigate which would "waft" or convoy them out and back. But even that protection was sometimes of little use, as when, for instance, in 1630 the commander of an English frigate sighted a foreign warship and went off in chase of it, leaving the sixteen merchant-ships, laden with cloth, to look after themselves in the pirate-infested North Sea.

**The Trading Cities** Who were the big traders of the Middle Ages? They were not to any great extent Englishmen until near the end of the period. England was a land of farmers and shepherds, rather than of seamen.

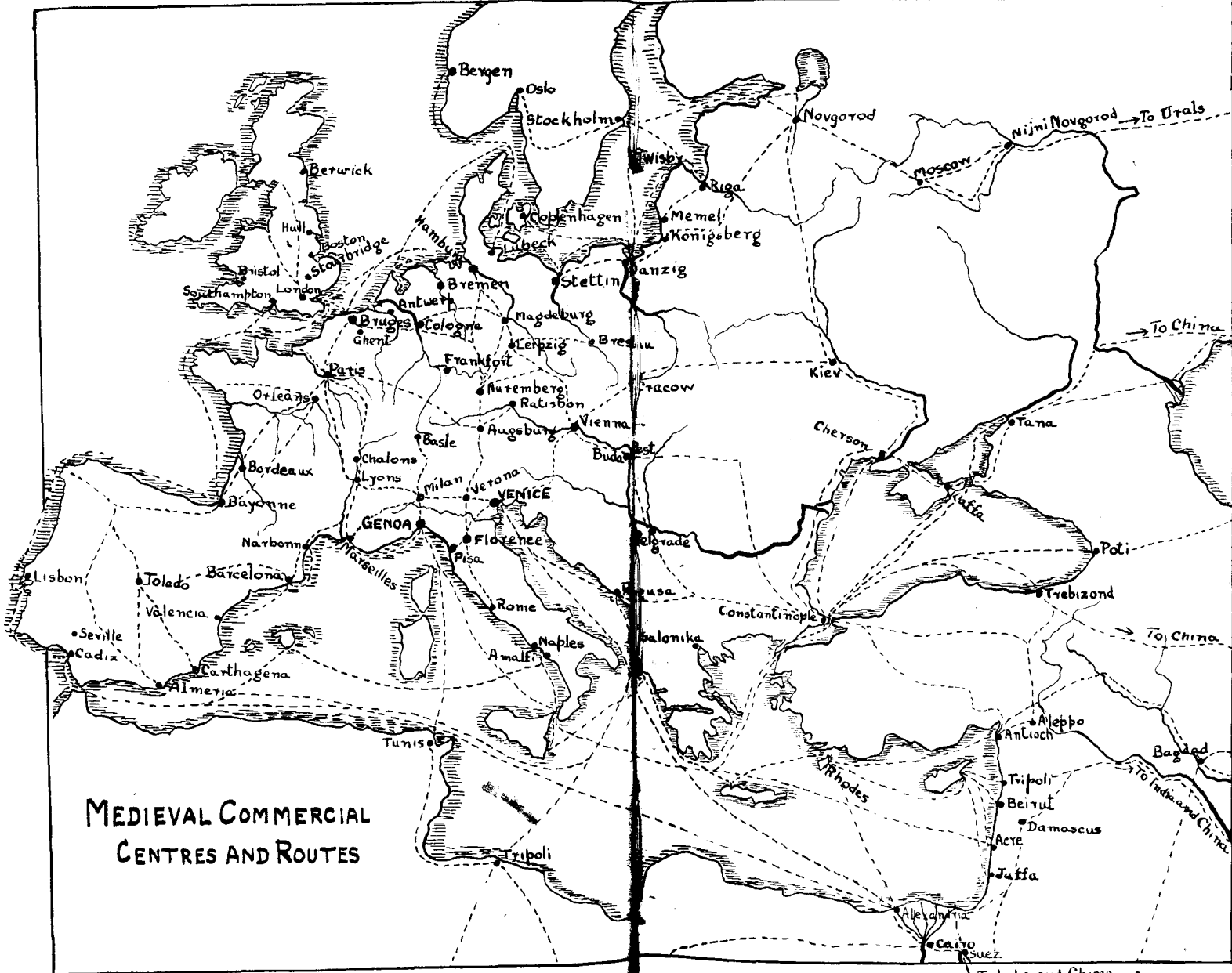
On a mediaeval map of the world the British Isles would be tucked away up in the north-west corner, a terminus, a country on the road to nowhere. Like France, Spain and Portugal, it was on the fringe of commerce, and had to wait its turn until the other side of the Atlantic had been discovered. Trade supremacy lay farther east, in the hands of the great city republics of Italy and the industrial or commercial centres of Flanders and Germany.

Of the Italian republics, Venice, Genoa, and Florence attained the greatest power and success, and of them Venice was the most important. Built on an island at the top of the Adriatic, she escaped the attention of the barbarian wanderers. Situated half-way

between the two ends of the Mediterranean, and with Central Europe behind her through the passes of the Alps, she held an ideal position at the hub of Europe and the Mediterranean. On her small island she could undertake little cultivation, so was driven to the sea, with salt and fish as her first wares of trade. For a long time her eyes were turned to Constantinople and the East, and the crusades, especially the fourth (1202-4), gave her the first real opportunity to become a great power. Dandolo, the Venetian Doge in 1200, was old and blind, but subtle and active. He offered to transport and feed the crusaders for a year, in return for a large sum of silver and half the conquered land and booty. Nay more, he diverted the crusade from the Holy Land to Constantinople, which was still the headquarters of the eastern half of the old Roman Empire. That city was captured and sacked, and when the spoils were shared out Venice got a large slice of Constantinople, a practical monopoly of the trade of the eastern Empire, and was recognised as lord of most of the islands and coastal settlements of Greece and Asia Minor. Dandolo styled himself "lord of a quarter and half a quarter" of the Empire, and presented his city with a great heap of plunder.

From these eastern conquests, from Asia, Egypt, and Central Africa, Venice gathered in produce of all kinds, both raw materials and the rarest luxuries. These, along with her own manufactures, which in themselves were of a high and expensive quality, she sold to the rest of Europe. She bothered little with land trade, but made German and other merchants come to Venice to fetch what they wanted. But her shipping experiences in the Adriatic and the East had made her skilled in navigation and given her a fleet of merchantmen. These vessels went out, in strong fleets, to England and Flanders, to Asia Minor, the Black Sea, and Egypt,





**MEDIEVAL COMMERCIAL CENTRES AND ROUTES**

fetching and carrying. They took out silk goods, beautiful Venetian glass, woollen and cotton fabrics, brass and iron ware, including weapons for which Venice was now famous, and spices. They brought back wool, hides, and Baltic products from Northern Europe, and gathered up the Oriental treasures at the termini of the Asiatic caravan routes. Venice was indeed the middleman of Europe.

This far-flung activity caused important improvements in commercial methods. Large fortunes were made and employed in trade, and a wealthy merchant class grew up. Book-keeping and banking methods became more elaborate; the Bank of Venice, founded in 1171, was one of the first public banks to be established, and the need for settling debts between places as far apart as Bruges and Venice without shipping precious metal over pirate-ridden seas caused the growth of the use of bills of exchange. Big hotels were built for the merchants who flocked to Venice, and many young men from other parts of Europe were sent to study commerce on the Rialto.

Genoa was the chief rival of Venice both in the Black Sea and in the markets of the west; but she was never strong enough to impair seriously the power of her rival. Florence attained fame as weaver of silk and woollen fabrics. Her merchants bought wool at the English fairs or went direct to such big sheep-owners as the monasteries, and purchased the wool-clip for a period of years in advance. But Florence's chief work was in the field of finance. She became Europe's money-lender, and not merely financed large-scale foreign trade but lent large sums to feudal lords and kings.

*Northern Europe.*—In the north, trading power centred in the towns of Flanders and Germany. Bruges was the terminus for the Venetian galleys, and during

the 13th and 14th centuries the neighbouring towns, such as Ypres and Ghent, flourished by making woollen goods. The north German cities lived by handling the products of the Baltic area, such as furs, Swedish iron, timber, flax, amber, and, above all, herrings. When the Church demanded that Europe should fast periodically, fresh or cured fish was an important article of diet and commerce; hence when the herring shoal came into the Baltic at a certain period each year, large, easy, and profitable catches could be made. In the interior of Germany towns which were on the Rhine profited by the large trade down the valley and over the Alps to Italy, and such cities as Augsburg and Cologne controlled the finance and trade of the great land mass of Central Europe.

*The Hanseatic League.*—The Italian cities fought each other bitterly; the German towns pursued another course, and in the Hanseatic League we have a new and successful experiment in commercial and political co-operation. German cities felt the need for joint action in furthering or protecting their civic freedom, in saving their merchants from robbery on land or sea, in preventing excessive levies of tolls, and in fostering their common interests in foreign markets. Various alliances or leagues were formed for one or more of these purposes, but the Hanseatic League was interested only in trade affairs. It began as an alliance between Hamburg and Lübeck to protect the traffic on the Elbe from robbery and high tolls, and possibly to fight pirates. By 1400 over 80 towns were in the League, including all the coastal ports and many inland cities.

The League was loosely knit together, with annual conferences and headquarters at Lübeck. "There was only a small federal revenue, no standing fleet or army, and no means of coercing disobedient members save

by exclusion from trade privileges. Yet this amorphous union ranked for some purposes as an independent power. It policed the Baltic and the waterways and highroads of North Germany; it owned factories (called steel-yards) in London, Bruges, Bergen, and Novgorod; it concluded commercial treaties, and on occasion it waged wars. In the 14th century it monopolised the Baltic trade, and was courted by all the nations which had interests in that sea" (Davis).

The "factories" were little residential clubs and warehouses for German merchants in foreign countries. They were independent of the local civic rulers, and governed themselves with strict discipline. By force or by bargaining with needy monarchs the League gained special trading privileges; at one time it was even exempt from customs payments on the goods its members brought to England. The factory was usually fortified, and with good reason, for towards the end of the Middle Ages the natives sometimes expressed in forcible manner their growing hatred of the alien and the profit he was making out of them.

*Rise of English Trade.*—Meanwhile, what of English trade and traders? England in the 12th century produced little but wool, hides, leather, barley, and minerals for the foreign market. The wool was often of high quality, and was eagerly sought after by Flemish and Florentine weavers. As one mediaeval chronicler boasted "the ribs of all nations throughout the world are kept warm with the fleeces of English wool".

But as the Middle Ages drew to a close English exports changed in character. Less wool went abroad and English cloth went instead. The manufacture of cloth for the home and foreign market became steadily more important, and although at first many of the pieces were undyed and of inferior quality, some high-grade

fabrics were being made and exported by 1250. Parliament in 1258 made an effort to encourage the manufacture by forbidding the export of wool, and exhorted those who grumbled because English cloth was rough and coarse "not to seek over-precious raiment". But the prohibition was short-lived; wool went to Italy and Flanders and returned as fine cloth, and when in 1327 the wearing of foreign cloth was forbidden, a saving clause allowed the court and nobility to import their finery. After that date progress was rapid, and by 1500 cloth had taken the place of wool as the chief article of export. In 1350 probably less than 5,000 pieces of cloth went abroad; in 1550 about 120,000 were exported, while the quantity of wool sold overseas declined by three-fourths during that period.

This rise of an industry which was to be the backbone of English trade until the 18th century was due to several causes. (1) The Flemish textile towns were rent with foreign and civil war during the 14th century, and their industry suffered in consequence. Some Flemings came to England, and though their influence was not so great as was once thought by historians, they probably strengthened the ranks of the native cloth-workers. (2) The government began to protect and encourage the industry. In 1337 it offered protection and "safe conduct to dwell where they will" to "all the clothworkers of strange lands", and again forbade for a time the export of wool and import of cloth. In 1377 Parliament prohibited the export of cloths until they had been fulled, i.e., cleaned, and in 1464 the import of woollen cloths and caps was forbidden.

During the same period various attempts were made by the state to supplement the efforts of the guilds in stamping out bad workmanship and fraud. The maker of cloth had many opportunities for doing fraudulent work, and often took advantage of them. Thus in

1464 one of many Acts dealing with the subject began as follows:—"For many years past and now at this day the workmanship of cloths. . . . is and hath been of such fraud, deceit, and falsity that the said cloths in other lands and countries be had in small reputation, to the great shame of this land". Time after time legislation tried to insist on a better standard of workmanship, and searchers were appointed to see that the laws were obeyed.

Perhaps the chief factor responsible for the growing export of English cloth was the rise of a class of native merchants. Up to nearly 1300 the alien held most of the field of English foreign trade. Italian and Hanseatic traders controlled exports and imports, Lombard and Jew gripped private and public finance. So necessary were they that they were encouraged to come to the country and given special privileges. Magna Carta promised them security from interference or excessive tolls; the Hanse traders were allowed to govern themselves and their goods were freed from fear of *prisage*, *i.e.*, forced sale at a low price to the crown; and the Carta Mercatoria (Merchants' Charter) of 1303 was a special charter granted by Edward I., to foreign merchants, giving them freedom to trade and immunity from *prisage* and other imposts, in return for certain new customs duties they agreed to pay. The three Edwards would do almost anything to get money, and the aliens seemed to be the only people who had any large quantity of it. So royal need kept England in the hands of the alien financier and trader.

But slowly the native English merchant was pushing into the foreign market, and at times the government gave—or rather sold—him a helping hand. Popular indignation led to the expulsion of the Jews in 1290, but the Italians supplied the kings with money in their stead. However about 1340, Edward III. repudiated

his debts to the Florentine bankers. This action shook Florence to its very foundation, and the Italian merchants immediately quitted England with their money, but without paying their debts. The Hanse traders and Flemings remained, and against them the English merchants carried on a determined fight. Organised in the Society of Merchants of the Staple, they gradually got into their hands the export trade in wool, leather, tin, lead, salt meat, and butter. Some merchants became financiers and supplied part of the King's needs. Others turned to push the sale of English cloth abroad, and impudently elbowed their way into markets that were regarded as a close preserve of the Hanse, selling cloth wherever they went.

By the end of the Middle Ages therefore, English trade was becoming aggressive instead of passive, and in spite of the twists and turns of national policy a belief in "England for the English" was slowly emerging. There had always been a dislike of the foreigner in the towns, which were often as insular in outlook as was the village. Even the Scotchman was in ill-odour, as was evident when a York merchant in 1514 complained that he had been "diffamed, noysed, and slandered that he (was) a Scottysman borne, not only to the rebooke of his good name, but also to the gret hurt and hyndrance of his worldly goods".

Just as the town had tried to monopolise its own economic life, so gradually the state came to make the same attempt. In 1367 the mayor of Hull was ordered "not to suffer any ships of foreign parts to be laded or freighted with wool or other merchandise to be taken oversea, until the ships of the said town, which shall be in port and seaworthy, be therewith charged and reasonably but not excessively freighted". This policy led to an attempt to foster English shipping generally, and in 1381 English merchants were forbidden to import

or export except in English ships. The attempt broke down because there were not enough native ships available, but it showed which way the wind was blowing.

Finally, the disastrous Hundred Years War ended the political entanglements between England and France. Apart from Calais, English kings no longer had one foot on each side of the English Channel, and so their interests centred on London. The Wars of the Roses swept away most of the old feudal nobility, and left the stage clear for that new class which had learned how to trade on a large scale, which had discovered how to build and navigate ships, which had tasted the danger and profit of foreign trade, and which was soon to find new worlds waiting to be explored and exploited.

**Supplementary reading.** Day, pp. 31-127; Stephenson, 55-105; Breasted and Robinson, chaps. 16, 19, 21; Davis, "Medieval Europe", chaps. 4, 9; Waters, "Economic History of England", parts 1-3; Ashley, "Economic Organisation of England", chaps. 1-3; Bland, Tawney, and Brown, "English Economic History: Select Documents", sections 3-7; Gras, "History of Agriculture", chap. 4; Knight, chaps. 3-6; Lipson, "Economic History of England".



## CHAPTER IV.

### THE OPENING OF THE NEW WORLD, AND ITS CONSEQUENCES.

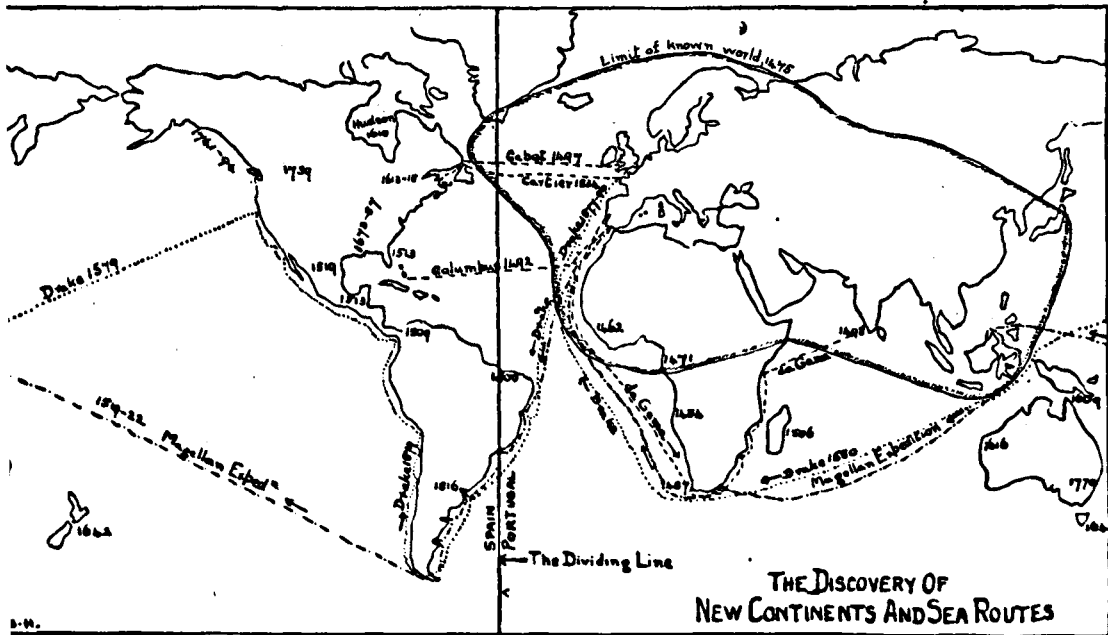
**B**ETWEEN 1450 and 1750 commerce underwent far-reaching changes in quantity and character, and began to resemble in some features the trading life of today. In 1750 there were still many things to come—machinery, steam, steel, quick transit, electricity, applied science, and high finance; there were still large areas, and even whole continents, waiting to be settled, and old nations still to be awakened from long slumber. But the way had been paved to the threshold of the modern age, and developments had been started which, later on, made possible the large-scale production and world trade amidst which we live.

Those three centuries saw the decay and death of much that had been warp and web of the Middle Ages. Feudalism lost some of its grip on western Europe, especially on England, though features of it survived between the Bay of Biscay and the Volga until the French Revolution and even later. The guilds decayed, for industry and trade were growing too large to be kept in the strait-jacket of municipal or guild restrictions. The fair was too short and infrequent to handle the expanding volume of trade, and methods of bringing buyer and seller into more frequent contact had to be devised. Old trade routes were closed or discarded in favour of new ones, and old commercial centres found their occupation gone or their monopoly challenged. The importance of the Mediterranean declined, and Venice took its place with Athens and Rome, as a glory that had vanished. The Hanse traders met rivals in

the markets of Scandinavia, Russia, the Low Countries and England, quarrelled among themselves in their own towns, were deprived of their privileges abroad, found their own German market invaded by foreign traders, lost many customers when the Reformation reduced the demand for fish and wax, and—unkindest cut of all—discovered that the herrings changed their itinerary and ceased to come into the Baltic to be caught.

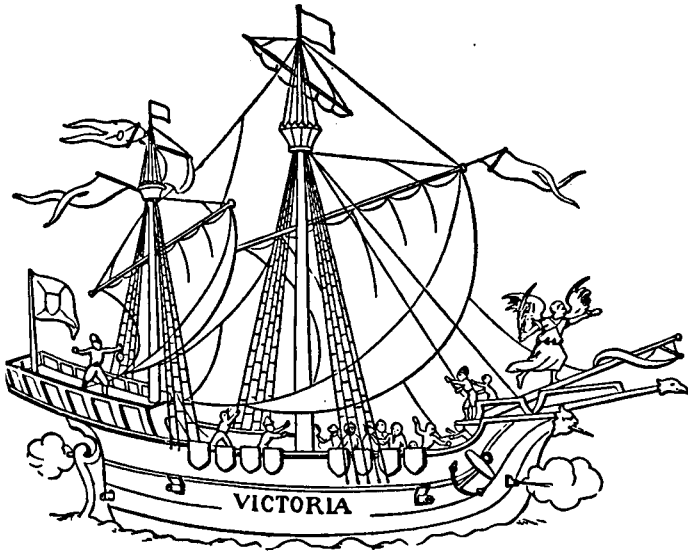
While old things decayed, new ones were born and grew vigorously. The Renaissance and the Reformation stirred new ideas or revived old Greek ones in the field of culture and religion, and the printing press spread those ideas abroad. New continents were discovered and new sea routes were found. New commercial powers arose to wrestle for the mastery of the new lands and ocean highways, and supremacy passed from one state to another. Empires assumed a new importance, both for trade and settlement, and colonial policies had to be framed. New forms of organisation and new trading methods had to be developed for handling the larger and long-distance trade, and this led to the appearance of joint stock companies and to big improvements in banking, currency, and credit.

**The Discoveries** The geographical discoveries sprang from the search for a new route to the silks and spices of the Indies. We used to believe that this search was undertaken because the Turks had captured the western ends of the old routes, and made the trade dangerous, costly, or even impossible. That explanation has now been abandoned, for apparently the Turks did not interfere with the trade, but rather tried to foster it. The explanation now given is that Spain and Portugal wanted to gain strength and wealth by extending their possessions: they wished to spread



Christianity: they shared in the general curiosity of the age, the desire to explore: and finally they wanted a slice of the trade formerly monopolized by the Italians. Cheaper goods and big profits were theirs if an all-sea route could be found.

It was sought in two ways—by going south round Africa, and west from Europe. Prince Henry of Portugal sent ship after ship crawling along the West African



Magellan's ship, the first to sail around the world

coast, and after his death (1460) the Portuguese carried on his work. In 1487 Diaz reached a point at which the long southward stretch of the African coast ended; it was the Cape of Good Hope. Eleven years later, Vasco

da Gama rounded that point, turned east, then north-east, and so finally reached India. The new road had been found.

Six years earlier (1492), Columbus, seeking the East by sailing west, had reached the Bahamas; Cabot in 1497 touched Cape Breton and Newfoundland, and within the next ten years the mainland of America was discovered. Balboa sighted the Pacific in 1513, and in 1519-1522 a ship went right round the globe. Those thirty years, 1492-1522, must have been full of thrills to all who went down to the sea in ships; they revealed new continents and new oceans, and made new calls to missionary, trader, and seaman. Only one continent remained undiscovered, and though men believed that there must be a great land mass south of the Equator to balance the land masses north of it, Australia was little known till late in the 18th century. Those who visited it before that time touched chiefly the north and west coasts, where they found sandy waterless wastes, stunted trees, a strange beast with a big jump (the kangaroo), and natives "the miserablest in the world". Not till 1770 did any explorer touch the fertile east coast and reveal another possible field for settlement, production, and trade.

**Effects  
of the  
Discoveries.**

The effects of the discoveries cannot be exaggerated. When Vasco da Gama reached India he announced, "We come in search of Christians and spices", but the stress was soon placed on the spices. The first effect of the discoveries was to allow much larger quantities of Oriental produce to be transported to the European market. They could now be packed into the hold of a ship which would take them straight to western ports. In 1582, for instance, one ship brought to Lisbon 750 tons of pepper and cloves, "and much

cinnamon and (other) spices". So prices fell, and what had been luxuries enjoyed by a few became comforts purchased by the middle classes. The pepper pot appeared on more people's tables, and in the 18th century even poor people drank tea, though they probably emptied the leaves out of the pot only when it was too full of old leaves to hold much water.

The second effect of the discoveries was to put new commodities from America on the market. Tobacco and potatoes were perhaps the two most important novelties, with cocoa as a minor dainty. Tobacco was at first hailed as a cure for all sorts of complaints, from wounds, ulcers, and abscesses to "diseases of the chest", "wasting of the lungs", "colds in the head", "evil of the joints", toothache, and "bites of venomous beastes". But by the end of the 16th century people smoked because they liked to smoke, whether they were well or ill.

The third effect was to flood Europe with large additional supplies of precious metals from South America. To Spain and Portugal the only American product that seemed worth getting was gold or silver; much gold was obtained, and when large silver deposits were found in Mexico and Peru, the flow of precious metal to Europe was so enormous that the value of silver was reduced possibly by one-half. This meant that the value of the silver in a coin was reduced, or in other words the coin purchased less goods, so prices went up, since people had to give more coins to buy anything. This general increase in the cost of living had serious effects on everybody, and much of the trouble between James I. and Charles I. and their parliaments was due to the fact that since prices had gone up the king must have more money with which to buy the things needed for government and defence. So there was probably some connection between the silver mines of America and King Charles' head.

The fourth effect was to move the centre of commercial and political gravity. The lines of trade no longer passed through the Mediterranean or down the Rhine; they went *past*, instead of *through*, the Straits of Gibraltar, and, except for purely European trade, the Mediterranean became a backwater. Religious and dynastic wars fore Italy and Central Europe in twain during a large part of the 16th century; Italy became a political wreck, while the long feuds north of the Alps culminated in the Thirty Years War (1618-48), from which Germany emerged ruined, with over half her population destroyed, her commerce, art, and literature almost vanished, and her people brutalized in mind and manners. So all factors combined to deliver world trade into the hands of newcomers. Let us look at the newcomers.

Portugal sent Vasco da Gama east, Portugal. Spain commissioned Columbus to go west; and when the Pope drew a line down the world map and gave all west of it—including all America, except Brazil—to Spain, and all east of it—including Africa and Asia—to Portugal, the plums of the new discoveries fell for a time solely into the hands of these two countries. Portugal for a while monopolised the whole Asiatic trade, from the Persian Gulf to Japan; she sprinkled the coasts of the Indies with her "factories", and the produce of the Orient flowed almost solely to Lisbon. From Brazil she drew chiefly precious metals. The trade in spices was vast and profitable. As one merchant said, "When the Lord God grants, by His mercy, that none of the ships take damage either in coming or going, then the merchants wax rich."

This commercial supremacy was short-lived. Portugal's small home territory produced little that she could

exchange for the wares of others, and she did not develop the knack of making profit by purely trading activity. She concentrated too much on getting the precious metals from her American colonies, or on using slaves instead of settling Brazil with her own people. Further, she had a big neighbour, Spain, and was beaten by her in the west and by the Dutch in the east.

**Spain.** The commercial greatness of Spain was bright and brief. Spain in the 16th century was the greatest power in Europe. It held parts of Italy and was master of the western Mediterranean; it ruled the Netherlands and so controlled the mouth of the Rhine; in 1580 it took Portugal and with it Brazil; it threatened to overcome England. By discovery, conquest, and the Pope's dividing line it claimed America. Its merino sheep gave a fine quality of wool, which was made into rich fabrics, and a large population of Moors and Jews gave it industrial and financial strength. Its prestige in industry, commerce, loyalty to Rome, and international politics was very high, and the king who sent the Armada against England described himself as "the junior partner of Almighty God".

Yet this huge structure soon collapsed. Politically, Spain's power was shaken by the defeat of the Armada (1588) and the successful revolt of the Netherlands about the same time. Economically, the country was injured when religious fanaticism drove the Moors and Jews out of Spain about 1610, for the exiles had been the backbone of agriculture, manufacture, and trade. The attacks made on Spanish vessels by the Elizabethan sea-dogs made one writer lament, "There is always much labour and sorrow in traffic with New Spain." Spain's colonial policy was short-sighted and bad. The



colonies were looked on almost solely as suppliers of gold or silver, which flowed to Spain—when it was not diverted by English raiders to Plymouth—and was then exchanged for goods from most other parts of Europe. Spain made no attempt to settle her possessions or develop their resources; she frowned on emigration, forbade her colonists to produce any goods that could be imported from Spain, and shut foreign ships and traders out of her American ports. Commercial control lay in the hands of the nobles and senior clergy, whose views were feudal and whose understanding of commercial needs and possibilities was very small.

So, with the Netherlands gone, with local industries ruined by the inflow of foreign goods and the exodus of skilled aliens, with Dutch and English ships worrying her bullion boats, with a colonial policy that crippled overseas development, and with high taxation and religious intolerance at home, Spain sank from her position of pre-eminence. Little remains today to remind us of her old power except the Spanish language in South America.

The centre of interest now moved to north-western Europe, and stayed there until the rise of the United States and Japan after 1860 broke Europe's monopoly. Holland, France, and England fought for the lion's share of foreign trade during the 17th and 18th centuries, and their rivalry largely caused the wars of that period. But since England emerged victorious from the struggle and laid the foundations on which, during the 19th century, she was to build the "workshop of the world", we may well study commercial methods and policies as seen in the expanding British Empire. Before doing so, however, let us glance at the record of Holland and France.

Holland drew strength and confidence from her successful defiance of Spain. **Holland.** Bruges, the chief mediaeval port of Western Europe, had given place to Antwerp in 1488, but the repeated plundering of that city finally drove the merchants and financiers to Amsterdam and compelled many craftsmen to move northward into Holland. The Dutch annexed much of the trade once carried on by the Hanse, and made a determined raid on the herring trade when the shoal abandoned its annual visit to the Baltic. But soon they turned to seek profit in long-distance trade, and when their revolt against Spain shut them out of Spanish and Portuguese ports they determined to go to the Far East and fetch their own spices. Out there they attacked the Portuguese and established factories in India, Ceylon, and the Malay Archipelago. They evicted the Portuguese and tried to keep out the English; for a time they controlled the spice trade, and Holland was the chief European vendor of pepper, cloves, and nutmeg. She looked west as well as east, and set foot in both Americas and the West Indies; Jamaica, Brazil, and New Amsterdam (New York) she held, but eventually lost; a piece of Guiana she settled and kept, while the Dutch population of South Africa dates from the time when Cape Town was a half-way house for Dutch ships bound for the Indies.

This trade in Europe, America, and the Orient made Holland develop rapidly as shipbuilder, navigator, and banker. Her vessels were the finest on the sea, and in time of war could hit hard at the fleets or coasts of France and England. Amsterdam became the financial centre of Europe, both for banking and the raising of loans. Buying and selling of stocks and shares became a common practice, and speculation at times was intense and wild. City life flourished, rich in art, science, letters, and freedom of thought, and citizens gave some

of their leisure and wealth to the cult of—tulips. But towards the end of the 17th century Dutch prestige began to decline, chiefly under the pressure—political, naval, and commercial—of her two bigger neighbours, and partly because of domestic quarrels and political corruption.

France found national unity and strong centralised government after the Hundred Years War, and although for a time she was embroiled in the disturbances of the Reformation period, she entered the 17th century strong and with no dangerous neighbour. Statesmen like Richelieu (1624-1642) and Colbert (1661-1683) threw energy and much public money into encouraging agriculture, making roads and canals, fostering industries, building ships, checking the importation of manufactures, and extending colonial and commercial enterprise. A most elaborate system of state restriction and aid was built up, so elaborate that eventually it became more a restriction than an aid. The expeditions of Cartier up the St. Lawrence (1534-1541) and the founding of New France in 1608 gave France an interest on the mainland of North America, while her fishermen had, long before the days of Columbus, developed an interest in the fishing banks. French trading companies and explorers turned their eyes to the Orient, the West Indies, and Africa.

With the 18th century the French tide turned. Long, costly European wars drained the country of men and money; her colonies brought her little profit, and eventually she lost them to England; and the despotism built up in the 16th and 17th centuries failed to justify itself either by bringing contentment at home or victory abroad. - Further, France produced no goods that were in such great demand that other nations simply must

have them; then, as now, she made "luxury goods", such as wines, spirits, fine fabrics, etc., and a determined rival could do without these if it wished. So France, though it had a population probably four times as large as that of Britain, lost ground to its island rival, and went helplessly on to face its revolution.

In 1558, when "that bright occidental star, Queen Elizabeth, of most happy memory" came to the throne, England was "the sick man of Europe", and the only question asked by onlookers was whether the estate of the dying person would go to France or Spain. Both were toying with the patient, but, said one foreign ambassador, "Really, this country is more fit to be dealt with sword in hand than by persuasion, for there are neither funds, nor soldiers, nor leaders, nor forces". The nation was bitterly divided on the religious issue; the currency had been tampered with and debased by preceding monarchs; unemployment and poverty were rife; many peasants had been driven off their land to make room for "the grey-faced sheep", and the roads seemed full of "sturdy rogues and vagabonds". Discontent and distress stalked the land.

That such a country recovered, defied Spain, defeated Holland, and vanquished France is a testimony to the skill with which Elizabeth and her ministers nursed the patient, and to the vigour with which he set to work once he was "up and about". The nursing was well done; a compromise on the religious question brought internal peace; the currency was drastically reformed; laws dealing with wages, unemployment, and the relief of the poor were passed; the national finances were carefully husbanded and fresh taxation was avoided. The defences of the country were put in better order, and skilful diplomacy kept foreign danger at arm's length

till the country was strong enough to stand a blow and return it. The defeat of the Armada marked the delivery of England from serious national insecurity, and gave new strength to movements which were already well under way for the extension of English commerce both in the old world and in the new.

*Regulated Companies.* This extension was partly the work of individuals, but chiefly that of groups of merchants and financiers, organized in companies. These companies were of two kinds—*regulated* and *joint stock*. The regulated company was in some respects an extension of the gild idea to foreign trade. The individual looked after his own trade, made his own profit or loss; there was no pooling of funds, goods or returns. The company had "no banke nor common stocke, nor common factour to buy and sell for the whole companie, but every man tradeth apart and particularlie with his own stocke, and with his own factour or servaunt". But just as the individual had for long been aided and regulated by his gild, so now he toed the line drawn by the company, and in return enjoyed the benefits the company secured for him in foreign parts. What then did the company do?

(1) By royal charter or by agreement with foreign powers it gained a monopoly over some commodity or area. The power of the English and foreign governments might be enlisted to prevent any non-member from "interloping", *i.e.*, poaching on the company's preserves. (2) The company tried to protect its members and their goods from violence and loss on land or sea. It asked for convoys for trading fleets and sought compensation for highway robbery or other attacks. (3) It settled disputes between its members, especially those arising abroad. (4) It did its utmost to prevent the glutting of any market, by fixing the times of sailing,

or limiting the quantity of goods sent at any one time. Sometimes it fixed minimum prices at which goods were to be sold. (5) It established factories like those of the Hanse, where merchants could lodge, store their goods, and live, subject to strict rules governing their morals and manners.

The regulated companies did not always secure full monopoly over their district, and the interloper was probably more common than is usually supposed. But the company fought hard to make its power supreme, and sometimes seemed to pursue a selfish as well as an exclusive policy. Membership was obtained usually by serving a seven or eight years apprenticeship and paying an entrance fee. The company was ruled by a central executive or "court" consisting of a governor and a number of "assistants". This court legislated for the members, supervised their conduct, maintained discipline, settled disputes, and negotiated with the home or foreign rulers. Sometimes it was situated in London, sometimes in some foreign port to which most of the trade went.

The regulated company did its greatest work in developing English trade in near-by countries, *i.e.*, those on the North Sea and the Baltic. First the Company or Society of Merchants of the Staple pushed the English selling of English wool; then came the Merchant Adventurers, who dealt chiefly in cloth. In 1601 this Company claimed that it had 3,500 "wealthie and well-experimeted merchauntes" on its membership roll, and asserted that it was annually sending 60,000 undyed cloths and many dyed ones abroad. Its headquarters had been at Bruges, but in 1444 they were moved to Antwerp, and in 1564 to Hamburg. It claimed monopoly over an area extending from the mouth of the Somme, just south of Calais, to the north tip of Denmark. In return for the cloth it sold in this

region it brought back goods formerly carried by the Hanse. It throve by breaking down the Hanse monopoly, only to try and build up another one in its place. Elizabeth closed the London Steelyard in 1598 because the Hanse merchants were trying to exclude the Adventurers from Germany, and during the next century the company flourished in spite of occasional set-backs. But public sentiment against monopolies steadily grew stronger, and in 1689 Parliament gave freedom of trade to all who wished to enter the Adventurers' preserve. About the same time the Company of Eastland Merchants, which had been given a monopoly of Scandinavia and the Baltic in 1579, lost its privileges, and trade with north-eastern Europe was flung open to all.

*Joint Stock.* The joint stock company grew up a little later than the regulated company, but eventually superseded its predecessor. Even in the Middle Ages men had pooled their money in order to undertake some venture for which one individual's wealth was insufficient, and had shared out the profits when the business was completed. In the 16th century there was a great extension of this practice. For instance, the slave raids on the West African coast and the long journeys of exploration, galleon-plundering and city-sacking cost a lot of money, but when they were successful the plunder or profit was large. Long-distance trade with Russia, Africa, or the Indies could not well be conducted on lines possible in the North Sea; the journey was long and expensive, and merchants could not afford to be away from home for a year or two. Therefore let those interested subscribe to a fund, with which goods could be bought; let those goods be put in the hands of an agent, who would take them out and exchange them for foreign produce; then, when that produce had been brought home and sold, let the

proceeds be shared out among the contributors in proportion to the amount each had invested, thus returning principal and paying profit.

This method of financing ventures seems to have begun in England in 1553 when a company was floated to trade with Russia. Then, when England began to seek a place in the New World, syndicates were formed to provide the capital. Hawkins went on three slave-snatching journeys, which were financed with money invested by all sorts and conditions of rich people—gentry, manufacturers, landowners, merchants, and even the Queen herself. When Frobisher went out in 1576 to find a north-west passage to Cathay (China) the Queen invested largely, and others who were "willing to venter sumwhat in the voidage" took up shares of £100 each. Hawkins made big profits on his first two trips, but little on his third, and Frobisher was unsuccessful. He "tasted most boisterous Boreal blasts, mixt with snowe and haile in the moneths of June and July", he encountered a "sea unicorne which had in his nose a horne" two yards long, and he saw the Esquimaux eating ice "as pleasantlie as wee will eate sugar-candie". But he failed to find either a north-west passage or a fortune for his shareholders. Some of the privateering ventures against the Spanish bullion ships paid well; the capital invested in Drake's voyage round the world amounted to £5,000, but as he captured bullion worth at least £1,500,000 his supporters made 4,600% profit, and the Queen received £250,000. No wonder she knighted him.

The joint stock method was next applied to the development of trade, the planting of colonies and the furthering of domestic industries. Of the trading companies the most important was the East India Company, founded in 1600. In many of its rules it looked like a regulated company, but its capital was "joint and

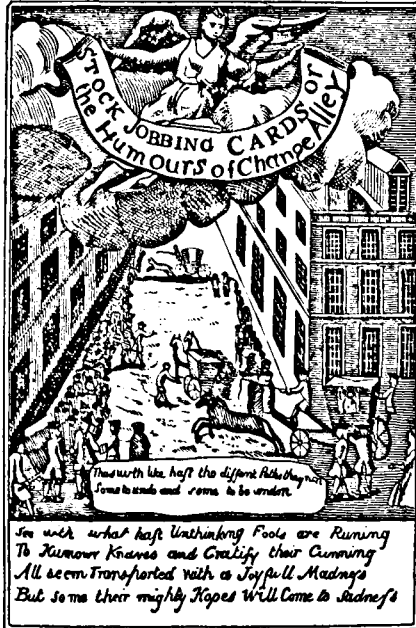


united" from the beginning. At first, however, each voyage was regarded as a separate financial transaction, and when the ships returned those whose money had provided the outward cargo received their capital back and whatever profit was available. But since voyages overlapped, since bookkeeping became complicated, since the company wanted money to sink in permanent fixtures such as forts and warehouses, and since the great rival, the Dutch East India Company, seemed to fare better with permanent capital, the English company finally, in 1662, made its stock permanent, and distributed only profit.

Other companies followed this example, for funds sunk in colonisation, land drainage, fishing fleets, coal-mines, smelting, water-supply, banking, insurance, and manufactures obviously could not be drawn out each year. So men gradually became accustomed to the idea of investment and the receipt of a periodical dividend. If an investor wished to get back his capital he had to sell the document which recorded his ownership of shares, and this selling became so common in the late 17th century that stock exchanges emerged for the buying and selling of shares. The men who carried on this new commerce in shares and national debt bonds generally met at first in coffee houses or side streets in London, but in 1773 they secured a proper building for their market. In the same way stock exchange activities in North America began with about ten men gathering under a buttonwood tree in Wall Street.

The profits to be made from investment, and the growing ease with which shares could be sold, caused a big extension of joint stock organisation during the latter part of the 17th century. Men were now able to invest their savings in enterprises they would have been unable to manage for themselves, while on the whole those who managed them on their behalf were fairly successful.

But the possible abuses of joint stock were soon discovered, and unhealthy speculation and the promotion



A Caricature of the Day of the South Sea Company, 1720

of bogus companies became very common, especially between 1700 and 1720. Companies were floated for every conceivable—and inconceivable—purpose, such as trading in human hair for wig-making, the manufacture of square cannon balls, the extraction of butter from beech trees, a wheel for perpetual motion, an air pump for the brain, and for “an undertaking of great

advantage, but nobody to know what it is", in which each subscriber of £2 was to get £100 per annum. This bubble of speculation and promotion burst in 1720, and caused widespread ruin. Public opinion blamed joint stock as the cause of that ruin; parliament therefore forbade any but chartered companies to operate, and since charters were hard and costly to obtain, joint stock organisation passed into the background for a century.

*The East India Company.* In the hands of regulated or joint stock companies English trade was developed in Europe and farther afield. The eastern trade was given entirely to the East India Company, the bounds of whose activities were Cape Town in the west and Straits of Magellan in the east. At first the Company had no desire to be anything but a trading body, and was satisfied if the native rulers gave it permission to buy and sell. But the Portuguese were already there, and also the Dutch; the latter squeezed the Portuguese out of the spice trade and then turned on the English. In order to protect itself the Company was compelled to establish fortified factories at Madras, Surat, Bombay, and Calcutta in India, and at Canton in China. Later, in order to fight the French attempt to gain control of India the British company was compelled to interest itself in the politics as well as the commerce of the country, and when the Seven Years War (1756-63) ended the French dream of an Indian Empire, the Company became virtually ruler of the great peninsula, with its own army and navy.

That rule lasted till 1858, when the Company was dissolved and the government of India was transferred to the Crown. Twenty-five years before (1833) the trading monopoly had been cancelled. For more than two centuries the Company had faced attacks at home and abroad; it had fought with its own hands Dutch,

French, and Indian; it had met the onslaughts of those at home who criticized it for being a monopoly, for taking bullion out of the country, for keeping ships away when they were needed to defend England's shores, for swallowing up capital that would be better spent on roads and other home enterprises, and for bringing back manufactured luxuries that competed with the home-made products. In its early days its adventure had seemed as impracticable as did the building of the Canadian Pacific Railway to a later century; but it succeeded in winning for England a possession and a market that still is one of the greatest receptacles for British products.

Of other trading companies little need be said. The Muscovy Company developed trade with Russia, and the Czar offered it the use of his prisons and instruments of torture for dealing with unruly members. The Africa Company kept forts and trading settlements on the Guinea coast, brought "elephants' teeth"—which meant tusks—gold dust and drugs to England, and carried slaves to the plantations of America. Colonizing companies made settlements on the east coast of North America, while the Hudson's Bay Company, founded in 1670, set out to develop "a great traffic of beavers" in the lands around the bay discovered sixty years before by Henry Hudson.

*The Hudson's Bay Company.* The story of the Hudson's Bay Co. illustrates well the 17th century methods of pushing trade in new areas where there was no strong governing machinery sent out by the parent country, and no army or navy. The Company was given, by royal charter, the right of sole trade in "all seas, straights, bays, rivers, lakes, creeks, and sounds . . . that lie within the entrance of the straights commonly called Hudson's Bay", and possession of all lands not actually



**First sale of Canadian furs in London, 1671. Note the candle on the auctioneer's desk**

occupied by other British subjects or those of any other Christian prince. The Company was made "true and absolute" lord and proprietor, with power to make peace and war with any native people. It was managed by a governor and committee of seven, and at first had only 19 shareholders and a capital of £10,500. Large profits were made on the early voyages, for while in 1676 goods worth only £650 were sent out, furs worth £19,000 came back. But soon trouble came in abundance. The French resented the presence of a rival fur-trader, and long before England and France were formally at war the traders of the two countries were hitting at each other. During the war of 1702-13 the fur trade was so depressed that the Company began an insurance business in London to repair its damaged finances, but when the Treaty of Utrecht (1713) recognized the Bay area as a British possession, real progress once more became possible.

To the south of New France lay the various colonies that English joint stock companies had carved out. In the early years of Elizabeth's reign plans for sailing to "the northern parts of America conveying settlers" were under discussion, and in 1578 Gilbert was given power to arrange "for inhabiting and planting our people in America". Gilbert achieved little, and Raleigh's ventures in Virginia in 1584 and subsequent years achieved less. But in the next century better results were secured, and the string of English settlements along the coast, from Newfoundland and Nova Scotia down to Virginia, became firmly established during the Stuart period. In some places religious motives brought a settlement into being, but in nearly all of them money had to be gathered into a joint stock organisation before a colony could be started. As settlements grew and emigrants peopled them, the trade with these colonies added considerably to the foreign

commerce of the mother country, and Virginia tobacco was said to be one of the mainstays of English shipping.

**The** Growing commerce needed more than joint  
**Currency.** stock; it wanted a better medium of exchange, improved credit facilities, and better devices for the payment of debts. Primitive man traded by barter, and all through history barter has been the usual method of exchange where conditions were primitive—as in early 19th century Ontario—or where advanced and backward people were exchanging their wares. But the ancient civilizations realised the need for some form of money which would be a medium of exchange as well as a measure of the relative values of goods or services. In Babylon lumps of silver circulated, and values were expressed in terms of *weight* of silver. The *shekel* was originally not a coin, but a unit of weight. During the 7th century B.C. the Greeks in Asia Minor issued oval pieces of money, made of a mixture of gold and silver, and stamped on one side. Eventually round discs, stamped on each side, and containing a fixed weight of precious metal, became generally used, and silver, gold, and copper coins circulated all over the Mediterranean world during the Roman period.

With the barbarian invasions precious metals seem to have disappeared from circulation, and the early Middle Ages traded chiefly by barter. But gradually Western Europe evolved a new currency: silver pieces were known in England in the 8th century, and while minting became in places a royal monopoly some feudal barons claimed the right to make their own coins. The chief trouble was that Europe had no big supply of metals to put into coins. Therefore the opening up of the South American mines gave Europe, for the first time, an adequate supply of metal for the coinage, for it increased the supply fourfold. But the entry of that

supply raised prices, for as the metal became less scarce its value, or, in other words, its purchasing power, fell. No one at the time quite understood this; everybody accused everybody else of "profiteering" and governments passed severe laws to check the wicked antics of middlemen. But sometimes the government was itself the chief sinner, as for instance in England, where Henry VIII. and Edward VI. recoined the silver currency and put the silver which had once gone to make one shilling into about eight shillings.

This royal enterprise in debasing the coinage was ably seconded by the private enterprise of individuals who clipped or filed coins, and while the royal misdeeds were redressed by the re-coinage of 1561, the clippers and filers carried on a flourishing trade all through the 17th century, as did also those who made false money. A village blacksmith might spend his spare time making "lead halfpennies coppered over", and in the remote dales of northern England dens of coiners and clippers carried on their risky but profitable industry. In 1696 the English coinage was re-minted, and the practice of "milling" the edge of the disc was introduced. But even then the skilful rogue could put on a new "mill" with his file after he had done his main task. Defective coins were common until the 19th century, and the disappearance of bad money is a comparatively recent event.

Beyond good currency lay the need for adequate credit facilities. The ancient world knew something about loans and interest, but during the Middle Ages the general opinion fostered by the Church was that the lending of money was evil if interest was charged. Jews and Italians paid scant attention to this notion, and made loans to private and royal borrowers. Banks were established and "paper" played a large part in



settling internal and international debts. But modern finance was developed largely by the Dutch and English as part of their growing commercial activity.

In England, facilities for the safe-keeping of money and valuables were offered by the London goldsmiths even in Tudor times, and their strong-rooms were full of treasure deposited by nervous citizens during the stormy times of the Stuart period. Retail tradesmen abandoned their old practice of entrusting their till-money to the care of their apprentices at night, and lodged it in the goldsmiths' strong-rooms. At first the goldsmith charged a fee for his service, but soon he began to ask himself, "Why let all this treasure lie idle?" Parliament, or the King, or the merchants, or all three, wanted to borrow money, and the Jews were swarming back to lend it to them. So the goldsmith began to lend the money thus deposited with him. He offered interest to depositors in order to induce them to put their savings into his hands. He gave them receipts for their deposits, and people began to hand these receipts over to other folk in payment of their debts to them, or gave their creditors orders to go to the goldsmith and draw money out of the depositor's store.

At the same time the goldsmiths, noticing the large stocks of actual coin that always lay in their hands, began to lend some of it to the crown or to private borrowers. Or, instead of lending the coins, they gave the borrower a piece of paper which entitled the bearer to obtain gold on presenting the paper at the goldsmith's shop. But since these notes passed from hand to hand and were not brought back for exchange into coin, still more notes were issued, until eventually the goldsmith might have issued promises to pay two or three guineas for every guinea he had in hand. Experience taught him that this practice was safe up to a certain point—unless a panic sent all the note-holders down on him

demanding that he redeem his promise. So the goldsmith turned into the banker. He took deposits and paid interest. He issued notes in excess of the money in his vaults. He granted loans, and discounted bills of exchange.



Mercers' Hall, the first premises of the Bank of England, 1694 up to 1734, when it removed to its present site in Threadneedle Street.

These developments culminated in the foundation of the Bank of England. In 1694 a group of financiers agreed to lend £1,200,000 to William III., at a time when the government's credit was very low. In return they got interest at 8%, and a charter permitting them to open a bank, receive deposits, and lend money, either in metal or notes. At first it was thought that all the lending would be to the needy crown, but soon a big private business grew up, and the Bank's notes came to

be regarded as being "as good as gold". The Bank helped largely to make London the financial centre of Europe, at the expense of Amsterdam.

**The Business Units** Joint stock companies and the Bank of England were big units, and they show that commerce and finance were being conducted on a large scale by 1700. To some extent this was also true of industry, and the big employer was already in the field. A 16th century ballad tells us of one Jack of Newbury, who was said to have had 200 looms under one roof and to have employed 600 people. When the monasteries were closed in the reign of Henry VIII, a few of the deserted buildings seem to have been turned into factories; in one of them every corner of the buildings was filled with looms, and even the abbey church was converted into a weaving shed. A Scottish venture in 1682 claimed to have 726 people "constantly employed" in cloth-making, many of them in one building, and during the 18th century we read of silk and other mills which employed 150 to 200 persons. Of some rich cloth-makers in the 16th century it was said that they were "mightily increased in fame and riches, chiefe comforters to the aged, and trainers up of youthe, their houses frequented like Kings' courts, their tables replenished like feasts, their hospitalitie bountiful . . . . with such plentie and content that royal kings have been highly pleased with their entertainment".

But these large establishments were rare; they were the exception rather than the rule. The bulk of the world's work was done in a small way; it was done by hand and with primitive tools or implements; it was carried on in or near the worker's cottage, and that cottage was often out in the country or in some village. Many cottages had their distaff or spinning wheel, with which mother and daughters spun the wool into yarn,

and in districts where cloth was made there would be a hand-loom in the house, on which the father and his sons or apprentice wove the yarn into cloth. Sometimes the family would be the "firm", employing itself. The father might go to market and buy wool, which was then made up by all the members of the household into cloth. The piece was then taken to market, or sold privately to some merchant or agent. In the linen districts of north-east France families grew flax on their land, made it into linen cloth, and sold it in the market at Valenciennes. Families living in districts where suitable clay was found might dig the clay, shape it into rough vessels, bake the ware in an oven, and then sell it to buyers who called for it or carry it away to a near-by market.

Often these independent families had small holdings of land, and had the right to turn livestock on to the village green. So they had two strings to their bow, and supplemented their industrial income by growing crops or keeping livestock. Their life was hard, hours were long, and even the youngest children had to help in the work. "Scarcely anything above four years old but its hands were sufficient for its own support," said Daniel Defoe, as if that were a virtue. But this child labour must often have been too long and strenuous for tiny hands.

Higher in the scale came the man who employed wage-earners and apprentices as well as his own family, and some of these men became quite large employers. Some of the workpeople might work under the employer's roof; others worked in their own homes. But some employers "put out" all their work to be done in the cottages. They had their central warehouse, to which they brought their raw material; here they gave it out to their workfolk or sent it out on the backs of pack-horses to the cottages scattered over a wide area. When the

goods were finished and gathered into the master's warehouse, he might sell them privately to some merchant, take them to market, or even go out as merchant to sell them himself. He was primarily a merchant, but he organised and financed the production of the goods he was going to sell. Later on, he sometimes established one of the early steam factories and gathered his work-folk under one roof.

This system of small scattered production has several features worthy of note :

(1) *Small Capital.* The amount of capital required was small, and so it was probably not difficult for an industrious and thrifty wage-earner to save enough money to enable him to set up as his own master. A list of London occupations published in 1757 showed that out of 180 industrial callings, 156 required a minimum capital of £100 or less, and 102 could be begun with £50 or less. The gulf between capital and labour was not therefore wide in some industries, and many men who rose to fortune during the 18th and early 19th centuries started as wage-earners or as very small masters.

(2) *Apprenticeship.* The work was manual work, and depended on the skill of the worker, not on the precision of elaborate machinery. Hence a period of technical training was necessary, and the state carried on the work of the guilds when, in 1563, it forbade any person to practise a trade at which he had not served an apprenticeship of seven years. Although the full seven-year term was not always served, most workers had some training under the roof of a master during their youth. They lived with him and learned all they could; sometimes they were treated harshly by him or his wife, and the runaway apprentice was a well-known figure in the 18th century life and literature; sometimes

they were put in "solitary cells" in the local "house of correction" for bad behaviour; sometimes they were released from their indenture because their master was habitually cruel, drunk, had been put in gaol, did not give them enough food, or "crushed and abused (them) by beating and otherwise".

(3) *Markets.* Improved marketing facilities were necessary to bring the many small producers into contact with the merchants. Fairs still survived for the sale of livestock and raw materials; the pedlar went his rounds over the countryside, and the weekly market still flourished for the sale of local produce. But where a district specialised in the production of one staple manufacture only, fairs were too infrequent, and so weekly or half-weekly markets were devoted to the sale of the one commodity. Here the small master brought the product of his last few days' labour, and here came all who wished to buy—pedlars, merchants and their agents. At first these commodity markets were held in some street or market square, but eventually market halls were built so that buyer and seller would not be at the mercy of bad weather or the traffic of the street. In one or two hours the produce brought to market changed hands; business opened and closed with the ringing of a bell, and in the short space of time between the two bell-signals many thousands of pounds worth of goods might be sold.

(4) *Means of Communication.* The movement of people and commodities was helped or hindered by the condition of the means of communication. Generally speaking, all means of transit were poor until the middle of the 18th century. Roads were probably better on the Continent than in England, and in the 16th century carts could travel from Antwerp to Madrid, a distance of 900 miles, in about 15 days. But there was no strong

effort on the part of most states to keep the roads in good order, and the forced *statute labour* that had to be done on the highways by those who lived alongside them was usually very slipshod in character. Hence, as late as 1770, an English traveller could report that one English road was "infamous. I was near being swallowed up by a slough"; another was "sufficient to dislocate one's bones"; a third was so bad that he cautioned all travellers "to avoid it as they would the devil, for a thousand to one but they break their necks or their limbs by overthrows or breakings down in these 18 miles, of execrable memory". Not all roads were as bad as these; but even at the best, bridges were few, rivers often had to be forded, and Dick Turpins infested the lonely spots, reaping a rich harvest from the traveller, even if, in order to take his purse, they sometimes had to take his life as well.

On these roads goods were carried by pack-horses, on men's backs, and in carts where the surface was good enough. In most parts of Europe private or public stage coaches plied between the chief cities; but those who ran them usually qualified their promise to take people, say 200 miles in four days, with the words, "if God permits".<sup>1</sup> In fact, a stage coach was sometimes nicknamed a "God permit".

If road traffic was poor and slow till about 1750, water transit was little better. Many rivers were still in their natural condition, with their courses broken by rocks, shallows, rapids, fallen timber, etc. Large land areas, such as Russia, Siberia, or the interior of Africa, were inaccessible, either because their rivers flowed into land-locked seas or frozen areas, or because tropical conditions made land travel impossible except with human beings as carriers. Finally, on top of natural obstacles, there were those imposed by man. International trade was subject to an elaborate maze

of customs duties, tolls, prohibitions, etc., and often merchants had to pay heavy duties in order to take their goods from one part of a country to another or get them into a town. Ocean ships were slowly increasing in size and seaworthiness, but so long as they had to be half merchantman and half battleship they could not adapt themselves to purely commercial needs. Commerce needed more and better roads, navigable rivers and canals, quicker methods of locomotion for hauling heavy, fragile, or perishable cargoes long distances, fewer restrictions on freedom of movement, and the abolition of many duties. Not till after 1750 were most of these needs satisfied.

Over the entire field of economic life the state exercised a rigorous control. **The State and Economic Life.** Its motives were mixed. Sometimes it was in quest of revenue, and sold monopolies or privileges to individuals or groups, in return for money. Sometimes it sought to protect vested interests and old industries against the attacks of interlopers or new rivals. But probably there was a wider motive, based on the belief that a country could not hold its own as a member of the quarrelsome family of nations unless it was economically strong and self-reliant. Trade was perhaps only "war carried on in another way", and each nation tried to develop its own resources, foster its own agricultural, industrial, and commercial strength, win new markets, deprive its rivals of their customers, build up a big war chest of bullion, create a mercantile marine that in time of war could be turned into a navy, and keep for itself whatever raw materials or special skill it possessed. National strength was the aim, and if a nation could gain that strength and at the same time weaken a rival, all the better.



This tangle of state controls has become known as *Mercantilism* or the *Mercantile System*. We cannot say how far it was ever recognized in its time as a system, but the fact does remain that during the 16th to 18th centuries most European nations pursued a policy of nursing and controlling the activities of their people. Colbert made ambitious efforts in France; in Austria almost every commodity and occupation was given into the hands of a regulated monopoly, from tobacco and coffee to honey and wax, from dance and music licenses to oysters and carnival masks. In England Mercantilism was more moderate and less consistent than on the continent, but a brief description of what was done by the English government will reveal the aims and methods of state control.

(1) *The Encouragement of Industries*. This was done by prohibiting, or imposing heavy duties on, imports of foreign manufactures. Some goods were forbidden admission entirely; in 1464 parliament banned the entry of articles ranging from woollen cloth, caps, and ribbons, to grid-irons, dripping pans, dice, tennis balls, playing cards, and candlesticks. In the late 17th century silk from France and the Indies, and fancy cotton goods from India were injuring the home silk and woollen manufacture, so the importation of these fabrics was stopped. Other goods came in on payment of heavy duties. All countries pursued this policy, and English cloth-makers were constantly complaining that continental markets had been nearly or quite closed to English pieces.

On the other hand, the export of raw materials was forbidden, lest a rival should therewith build up a competing industry. "Wool is the flower and strength, the revenue and blood of England", said a Stuart writer: "In the supply of wool this nation is by God peculiarized", and the "trade in woollens is of more advantage

to this nation than the gold mines of Mexico and Peru are to the King of Spain". Obviously, therefore, it would be madness to allow Dutchmen and Frenchmen to get hold of any English wool, and so from 1660 to 1825 the export of wool was sternly forbidden. This prohibition stirred the "owler" or smuggler to greater effort, and for over a century there was a battle of wits between him and the government. To check smuggling was as difficult then as it is today; wool went abroad in large quantities, and Englishmen lamented, perhaps a little too loudly, that foreign nations "have long sucked the sweetness of the sinews of our trade".

The exports of tools and machinery, and the emigration of artisans, were also forbidden. Each country tried to foster its own industries and set up new ones; if it had no skilled workers of its own, it enticed them to come from other lands as teachers. In 1718 an Act was passed to check the activities of "divers ill-disposed persons" who "have of late drawn away and transported artificers and manufacturers out of His Majesty's dominions into foreign countries by entering into contracts with them to give them greater wages than they have or can reasonably expect to have within this kingdom, and by making them large promises and using other arts to inveigle and draw them away".

In similar fashion Parliament in 1781 forbade anyone "to put on board a ship any machine, tool, or utensil used in woollen, cotton, linen, or silk manufacture, or any model thereof" under pain of a fine of £200. In 1786 the pottery manufacturers asked that potter's wheels and lathes be added to this list, and in 1789 customs officers seized a shipment of articles "on the suspicion of their having been collected for the purpose of establishing a manufacture of earthenware in Copenhagen". Among the articles was a large notebook, written in Danish and German, and full of drawings of

machines and engines ; its owner had been detected in the Potteries bribing workmen to give him information concerning the structure and measurements of ovens, etc.

In order to protect or encourage a new industry the crown sometimes granted a monopoly to an individual or group; but here the desire to get revenue was probably an equally powerful reason. Monopolies were at various times granted for such things as the making of glass, soap, starch, wire and pins; for dyeing cloth, mining alum, importing wine, and obtaining sea salt. These, along with the monopolies of the trading companies, drove one member of parliament to declare in 1640 that monopolies, "like the frogs of Egypt, have gotten possession of our dwellings, and we have scarcely a room free from them. They sip in our cup, they dip in our dish; they sit by our fire. We find them in the dye vat, the washing bowl, and the powdering tub. They share with the butler in his bar. They have marked and sealed us from head to foot".

Opinion hardened against all such privileges during the 17th and 18th centuries. A pamphleteer expressed a widely-held opinion when, in 1645, he said that the monopoly of the Merchant Adventurers "hath been like an ulcer on the body politique of this kingdome a long time, which hath been often lanc'd and rub'd, yet it clos'd againe and gather'd more corruption than formerly, and now requires a greater cure than ever". Naturally, those who were not enjoying the fruits of monopoly resented their exclusion, and attacked the privileges granted to others as "inconsistent with the true principles of commerce, because they restrain at once the spirit of enterprise and the freedom of competition".

Finally, the state tried to maintain and raise the quality of production where goods were to be exported.

From home and abroad complaints frequently came that English cloth was full of fraud and deceit. "The false and deceitfull makynge, dyinge, and dressynge of clothe disgraceth it in foraigne parts", said an English committee in 1622. "The French doe daylie complayne of the badness of the English draperie", lamented the London merchants in 1635; and in 1652 the Hamburg government sent a delegate to London to complain of "the abuses which are in the makeing of the English cloaths". A common cause of complaint was that cloths, when being dried after having been fulled and cleaned, were excessively stretched on tenter-frames to make them longer and broader. But such cloth shrank immediately it came in contact with water, and so, in the words of a pamphlet written in 1613, "If a gentleman make a liverie for his man, (after) the first showre of rain it may fit his Page for Bignesse".

The state tried to suppress this and other fraudulent practices; it passed laws fixing standards of weight, length, breadth, quality, etc.; forbade certain processes or methods; and sent inspectors and searchers into the industrial areas to see that cloth and other products were honestly made. And, in order that no chance be lost for increasing the demand for the staple manufacture of the realm, Elizabeth ordered all persons over seven years of age to wear woollen caps, made in England, on Sundays and holy days, while, in 1666, parliament said that no person was to be buried in any wrappings except those made of pure wool, under pain of a fine of five pounds.

(2) *The Encouragement of Agriculture.* This was done by trying to guarantee a fair price to the wheat-farmer. If wheat fell below a certain price—48s. a quarter was the figure after 1663—in consequence of an abundant season, wheat could be exported, and a bounty was paid on all grain exported. On the other hand grain

could not be imported, except on payment of a heavy duty, unless the failure of the harvest forced the price too high in the home market, say above 54s. a quarter. Thus the consumer was protected against high famine prices, while the producer could, by exporting in good seasons, keep the price steady, at a profitable level. But as there were few facilities for exporting or importing wheat, price fluctuations did take place and were sometimes so violent as to provoke bread riots, and attacks on farmers or grain merchants. At the end of the Napoleonic War, when landlords and farmers were in danger of losing the high prices they had enjoyed while the war cut off sources of foreign supply, the import of wheat was forbidden unless the price of local grain went above 80s. a quarter. This was the famous "Corn Law", of which we shall say more in a later chapter.

(3) *The Encouragement of Shipping.* We have seen how, in 1381, an attempt was made to compel English merchants to carry their goods in English ships. But then, and for over two centuries, England had not enough ships or sailors, and sea carriage was in the hands of Italians and Portuguese, and later of the Dutch. Before the Armada, and much more so afterwards, English ships grew in number and size. To encourage them and to hit the Dutch was the aim of the Navigation Acts of 1651 and 1660. These Acts forbade the importation of goods from Asia, Africa and America through European ports, and said they must come either in English ships, or in ships belonging to the country from which the goods came. But since Africa and Asia had no ships of their own to send, the goods had therefore to come in English vessels. Goods from the colonies could come only in English or colonial vessels, and this helped to encourage shipbuilding and

shipping in the North American colonies, where there was abundant timber for the boat-builder. Coastal trade was kept entirely in the hands of native ship-owners, light-houses were built, harbours were improved, and trained pilots were made available.

How far the Navigation Acts achieved their purpose—or even had a far-sighted purpose—we cannot say. Some writers claim that they trained up a body of British seamen, made English ships take the long journeys to the colonies, beat the Dutch, centred the colonial trade on England, and made the country a great *entrepôt*, i.e., a place to which goods came and were then transhipped to their final destination. Other writers assert that they did more harm than good, that English shipping would have grown strong without them, and that they compelled ships often to go out with empty holds and hence put up freights. Often the Acts had to be relaxed by the grant of special exemptions. Further, by demanding that virtually all the colonial produce come to England they prevented the establishment of direct contacts between the colonies and foreign countries.

(4) *The Development of the Colonies for the Benefit of the Mother Country.* Spain had tried to keep the whole benefit of the colonies for itself, and had forbidden any colonist, under penalty of death, to trade with foreigners or foreign ships. The English view was only a little more liberal. Colonies were children, to be protected and financed by their mother. In return, any benefits that might be forthcoming were to go solely to her. Her capitalists sought fortunes out of investments in colonial land or trade; her surplus population, whether it consisted of prisoners, unemployed, criminals, or general undesirables, was dumped overseas. The colonies, though far distant, must not attempt to make things that would free them from dependence on motherland

producers or allow them to compete in other markets with those producers. As Chatham said in the 18th century, "the British colonists of North America have no right to manufacture even a nail for a horse-shoe". Let the colonies remain producers of raw materials or food-stuffs that the parent did not produce; let them send these goods, especially a list of wares that were officially "enumerated", such as sugar, tobacco, and cotton, to the homeland ports, there to be consumed or sent on to other European markets, and let them in return buy British manufactures.

This theory of colonial obligations was never rigidly applied by Britain; there were minor relaxations of the Navigation Laws, some goods could be sent to European ports direct, and few colonial governors tried to enforce strictly the policy laid down in London. In one instance, that of Virginia tobacco, the English government favoured the colonial producer by refusing to allow tobacco to be cultivated in England. But the central idea remained unchanged, and the system as a whole was devised primarily in the interests of the motherland. "Eagerness for immediate gain blinded England's eyes", and the surgical operation that was necessary to restore her eyesight was a costly one, for it was the loss of the American colonies.

(5) *The Accumulation of a Large Store of Precious Metals.* Ideas on the meaning of wealth and the character of foreign trade were just taking shape in the 17th century, and most men thought of wealth as being almost solely the precious metals. Money was necessary in time of war, and until governments discovered the unlimited possibilities of printing paper money and of the national debt, that money must be gold and silver. But few European nations had gold or silver mines in their home territory; how then were they to increase

their stock? Drake's method of raiding Spanish galleons had its limitations, and so the only satisfactory way seemed to be to steer trade in such directions that a country exported as great a value of goods as possible and imported as little as it could. If in this way there resulted a net surplus of exports—a *favourable balance of trade*—the foreigner would have to pay for that surplus by sending precious metal. To get a favourable balance of trade was therefore the cardinal aim of commercial statecraft. For instance, in 1650, a commission was appointed by Cromwell to consider, among other things, "of some way that a most exact account be kept of all comoditys imported and exported through the land, to the end that a perfect Ballance of Trade may be taken, whereby the Commonwealth may not be impoverished by receiving of comoditys yearely from other parts of a greater value than what is sent out". Six years later an Act of Parliament sanctioned the export of certain goods, but declared that "it has been found by long experience that the prosperous state of all islands is very much (under God) maintained and supported by a quick and flourishing trade, and in a just endeavour and care that the exportation of the native commodities overbalance the importation of foreign commodities".

This same policy governed the making of commercial treaties, and decided the countries with which trade was to be encouraged or impeded. Trade with Sweden was discouraged in the 17th century because the Swedes did not buy Virginia tobacco, while that with Russia was stimulated "because of the inordinate amount of tobacco smoked by the Muskovites". Trade with France was frowned on, since France was willing to sell plenty of brandy, wine, and silk, but wanted little from England except the coveted wool, which England would not let her have. Therefore the balance of trade with France would be unfavourable. Portugal, on the other



hand, seemed a good customer, for she had little but port wine to exchange for English cloth, and the balance would always be in England's favour. By the Methuen Treaty of 1703, therefore, England admitted Portuguese wine at two-thirds the duty payable on French wine, in return for the free admission of English cloth into Portugal. Englishmen were thus compelled to drink port, which they did not like and which gave them gout, or pay high prices for the French wines and spirits they did like. Often they got the French goods and got them cheap, thanks to the smuggler, for the English Channel was alive at night with sailing vessels, taking wool to France and returning with silks and spirits.

**Supplementary Reading.** Day, chaps. 15-27; Stephenson, section 3; Ashley, chaps. 4, 5; Waters, parts 4, 5; Usher, "Industrial History of England", chaps. 8, 11; Bland Tawney and Brown, part 2 section 3, 5 and part 3, sections 1, 6; Morris and Wood, "The English Speaking Nations", chaps. 2, 3, 4, 5, 15. See also any available histories of the British Empire.

## CHAPTER V.

### THE REVOLUTIONS

**W**E have now to see how the world described in the last chapter became the one we know to-day. Our world is at almost every point different from that of 1750, and the changes have been so far-reaching that we can call them revolutionary. They have been brought about partly through developments which were already apparent before 1750; but they are chiefly the result of invention, discovery, and scientific research since that date. For nearly two centuries man has been energetically trying to find things out, and has succeeded in making two big general discoveries.

In the first place, he has discovered better ways of producing things, and ways of producing new things. In agriculture, industry, and mining he has found quicker, cheaper, more productive ways of working. He has learned how to devise machines, how to drive them with steam or other forms of power, how to extract and use metals, and how to apply science to the problems that confront him. So there has been an agricultural revolution, an industrial revolution, a power revolution, and what we may call a metal revolution.

In the second place, he has discovered better ways of moving things. He has learned how to harness power and to make it move bulky or perishable goods of low value long distances quickly and cheaply. He has learned how to overcome geographical distance, to get rapidly from place to place, and to bring America and Europe within speaking distance of each other. So there has been a transportation revolution, and in consequence

a commercial revolution. Let us therefore glance at the chief features of these revolutions in production and transportation, and in the following chapter examine some of the main results.

**The Agricultural Revolution** There had been some change in farming methods since the Middle Ages, but in many parts the old open field system, with its scattered arable strips, still survived. Where it did, draining, weeding, and better treatment of the plough-lands were impossible unless all the farmers acted together, but the poorer or more conservative farmers could not or would not adopt any such innovations. Often the land lay water-logged during rainy seasons, weeds flourished on the balks, the soil yielded only four to six times the quantity of grain sown, and the fields that lay fallow every second or third year were a serious waste of good land.

The common pastures were often "filthy blotches on the face of the country"; no attempt was made to improve the quality of the grass, for what was everybody's business was nobody's. The sheep reared under such conditions weighed only about 28 lb., and seldom yielded more than 3 lb. of wool; so the "black sheep" of nursery fame must have exaggerated grossly when it claimed its fleece would fill three bags—unless the bags were very small. Cattle were small and bony, and the "roast beef of Old England" must often have been tough. As one writer said in 1700, the common field system produced, both in man and beast, "a starved, scabby and rascally race. Their sheep are poor, tattered and poisoned with the rot. Their cattle and colts are dwarfed and ragged". Ninety years later another writer said "Poverty and ignorance are the ordinary inhabitants of the small farms". Conditions in parts of Holland, France, and North Italy were much better,

but in some areas of south-western France and Spain the land was being tilled in 1789 as it had been in the days of the Roman Empire, though with less skill and success.

During the 18th century these conditions began to change, especially in Britain. Population, manufactures, towns, and trade were growing more rapidly than in previous centuries, and there was a call for more food and raw materials. Landowners became interested in



**"Farmer George" or Royal Affability.**  
From a caricature by Gillray, who here pictures him walking with the Queen on his Windsor farm and accosting a labourer

improving their estates, and experimental agriculture was a fashionable alternative to hunting or drinking. George III. loved to be called the Farmer King; Walpole

used to read the letters from his farm steward before he touched any state documents. Townshend deserted politics in 1730 and won fame with the nickname of "Turnip Townshend". Agricultural societies sprang up and books on farming sold well.

Out of this enthusiasm and experiment many important results emerged. Jethro Tull taught the value of sowing seed with a drill instead of scattering it broadcast, and revealed the benefits to be obtained by weeding and working the land thoroughly. Townshend showed that turnips could be grown on land which would otherwise have been left fallow; the turnips not merely nourished the soil, but provided a valuable winter food for cattle, so that the annual autumn slaughter was no longer necessary. Better drainage, deeper ploughing, regular hoeing, new varieties of seeds, better rotations, all were tried with profitable results, while agricultural machinery was designed and gradually improved.

At the same time cattle-breeders gave attention to the production of bigger and better animals; sheep were increased in weight from 28 lb. to 80lb., and their fleeces from 3 lb. to 8, 10, or even 12 lb. The average weight of cows sold in Smithfield market rose from 370 lb. in 1710 to 800 lb. in 1795, and most of this increase was in flesh, not bone. Commons and waste lands were enclosed and turned into plough-land or pasture, and the landed gentry obtained permission from parliament to sweep away the old common field system, abolish the strip distribution of arable, and re-divide their estates into compact farms.

*Agricultural Science.* The experimenters of the 18th century worked largely in the dark, since they had little knowledge of soil chemistry, botany, or the principles of heredity. Jethro Tull, for instance, seemed to think that plants lived on small particles of soil, and he worked

the ground so that the particles would be small enough for the roots or seeds to swallow. But in 1803 Humphrey Davy gave a series of lectures on "The Connection of Chemistry with Vegetable Physiology" and in 1840 Justus von Liebig published a report on the relation of chemistry to agriculture and physiology. This report opened the door on a whole new world of agricultural science. Men now began to understand the relation between the chemical composition of the soil and atmosphere and the needs of the plant, and were able to solve many old problems. How, for instance, could an exhausted soil be replenished, how could an excess or deficiency of some necessary chemical be corrected, what qualities were needed in cattle foods, how did pests or diseases develop and how could they be eradicated? Then in 1865, Mendel, an Austrian, put forth a theory of heredity which suggested answers to some important questions connected with the breeding of plants and animals. How could you breed a sheep which would have plenty of flesh and wool, and not too much bone? How could you evolve a wheat that would suit the climatic conditions of a particular area? Could you produce an orange or raisin that would be seedless? An answer to such questions was very important to those who worked in wheat field, cattle ranch, or orchard; it allowed Australia to find a wheat that would grow on its semi-dry lands, it gave the prairies the quickly-maturing Marquis wheat, it helped the sheep-rancher to get mutton as well as fine wool, and it put grape fruit on the breakfast table. The foundation of modern farming is science; in Tull's time it was custom, tradition, trial and error, or "Do as your grandfather did". But, lest we unduly condemn the past, let us admit that there are many grandfather-worshippers working the land of the world to-day.

**The Industrial Revolution,** *Machinery.* The invention of machinery was due in part to the general 18th century search for better methods of doing things. Scientific and commercial societies fostered a spirit of inquiry, and were ever ready to welcome any new idea or device.

But if curiosity was the father of invention, necessity was its mother. Growing population and trade expanded the demand for manufactured goods at home and abroad; old methods of production were slow and costly, and the labour supply was insufficient. For instance, the East India Company created a liking for light, fancy cotton-goods, but was forbidden to bring them from India. Lancashire therefore began to make fabrics which were a mixture of cotton and linen, and which thus evaded the ban on pure cottons. This new industry was hampered by lack of labour; the handloom was slow, yet one weaver used up the yarn spun by four spinners in the cotton industry and that produced by 9 or 10 in the woollen manufacture. "Spinning and weaving were an ill-matched team", so spinning must be speeded up to keep the weaver busy, and at the same time quicker weaving was necessary to meet the growing demand for cloth.

The invention of the "flying shuttle" by Kay (1733) allowed the shuttle to be sent more quickly across the loom, and thus made the yarn famine still more severe. A series of inventions by Wyatt, Paul, Hargreaves, Arkwright, and Crompton between 1740 and 1780 allowed one worker to spin 20, 30, or even more threads of yarn at a time, and improved the quality of the yarn. So spinning was speeded up. Then in 1785 Cartwright applied power to the loom, which formerly had been worked by the hands and feet of the weaver. Thus the loom could be operated more quickly.

These inventions were only the beginning of the revolution; there were many improvements yet to be made. Still, by 1800, 35 people, working with machinery, were able to spin as much yarn as could have been spun twenty years earlier by over 1,600 workers. Later on, the loom became so efficient that women displaced men as weavers, and one woman could look after two, three or four looms. Then, in the later 19th century, Northrop invented an automatic device by which the shuttle, when empty, could be ejected from the loom and a full one dropped into its place without stopping the loom. One woman could look after twelve to twenty automatic looms, and did not need to be a skilled weaver, since her only task was to replenish the reservoir of each loom with full shuttles.

From the textile industries machinery spread to other occupations. Knitting machines displaced the old needles; the sewing machine, invented in 1846, by an American, Elias Howe, revolutionized sewing occupations, and made cheap ready-made clothes accessible to the poor. Similar machines entered the boot-making trade, and, when supplemented by leather-cutting and other machines, created the modern boot factory in place of the old cobbler, with his lasts, leather apron, and mouth full of nails. Machines were devised for setting type, for blowing glass-ware, for cutting and working wood, and even for doing arithmetical calculations.

Machinery also invaded the metal trades. When James Watt invented his improved steam engine he found it almost impossible to get smiths who could make the parts with sufficient precision; one cylinder was one-eighth of an inch wider at one end than the other, and in another there was an error of three-eighths of an inch. If engines were to be made, if looms and other machines were to work smoothly, a whole new



industry must be built up, capable of making parts that were exactly of the required size and shape. The invention of machines to make machines therefore attracted attention, and the field that once was largely in the hands of the blacksmith was over-run with mechanics, engineers, fitters, turners, moulders, makers of nuts, bolts, screws, etc. Most of this advance in ability to work metals took place in Europe, but later on the United States added important tools and machines, while it simplified and made automatic the operations of large complicated lathes, boring, stamping, cutting and other machines. Here, as in the automatic loom, the aim was to increase the output of each worker, to reduce the need for manual skill, and to replace the possible inaccuracies of the human being by the accuracy and endless strength of the machine. In the words of a typical American advertisement, "As many as six (machines) can be operated by one man—unskilled at that. Putting on and taking off the work is his job; the (machines) do the rest."

In some industries the revolution lay not so much in the application of machinery as in the solution of technical problems, in order to improve quality, increase output, and lower price. The pottery industry, for instance, had to discover how to make the wonderful ware that merchants from China and the Indies brought to Europe. Formerly the rich used pewter or plate on their dinner tables, and the poor had leather bottles, wood platters, or crude earthen pots. But by the 18th century white, glazed porcelain was in demand among the rich and middle classes, and Germany and Holland had found out some of the secrets of making pottery that was good and artistic. To win a place in supplying this demand, Wedgwood and others experimented ceaselessly with different clays, glazes, colours, patterns, and decorative designs. They trained workmen, employed

artists, copied ancient and modern patterns, built new types of ovens, and advertised their wares in the press or through show-rooms in London. Thus the revolution was not so much one of machinery, as of securing quality, taste, and variety in production.

Machines needed power to drive them. **The Human strength was inadequate for working the cumbrous new devices, so some other source must be tapped. Wind had long been used, and also cattle. Then came water-power, and the water-wheel was very popular in the 18th century. We read of one silk mill at Derby (1719) in which 26,586 wheels and 97,746 movements were operated by one huge water-wheel. But water-power was not available everywhere, and water gradually gave place to steam.**

*Steam.* The value of steam had been recognized in the 17th century, and by 1715 many engines were at work pumping water out of mines. But they were slow, cumbersome, and very wasteful of heat. In 1763 James Watt was repairing a model of one of these early engines, and began to think out ways of making the engine more efficient. After about two years of experiment he solved his problem, and patented his new engine in 1769. In Matthew Boulton, a Birmingham manufacturer, he found an ally whose skilled-workmen could make parts accurately, and the production of engines began. By 1800, 320 had been erected in the country; they averaged only 16 H.P. each, and still worked slowly with much waste of power; but size and efficiency steadily increased, and by 1850 steam held the field in manufactures and land transportation.

*Electricity.* Within the next fifty years steam was supplemented by electricity, oil, and gasoline. At first

electricity was generated by steam-driven machines and was fairly costly, but soon men began to produce it chiefly by harnessing falling water. Most of the world's areas which are rich in rapids or waterfalls lack good coal supplies; Scandinavia, Northern Italy, the Rhone valley, Ontario and Quebec have to bring their coal from a distance, but they have plenty of rapids or big falls. The idea that the power going to waste in roar, splash, and spray could be turned into electricity was first entertained by a Frenchman in the eighteen-sixties. At a height of over 6,000 feet he harnessed water from glacier and lake, and produced 10,000 H.P.; lower down he installed another plant which supplied the neighbourhood with electricity, while at the bottom of the slope he made a waterfall work his paper mill. This successful pioneer work attracted attention, and soon improved methods of transmission allowed the power to be sent longer distances. Hence "hydro" plants were built in south-east France, northern Italy, Scandinavia, New Zealand, and North America. Since the war falling water has been harnessed in rapidly increasing quantities in countries as far apart as Tasmania, Canada and Spain.

**The Metal Revolution** Steam engines and machines could not be made of wood. Iron was needed; but until about 1740 iron was smelted with charcoal, and as the forests had nearly all been cut down in iron-producing areas the output of iron in England was only about 17,000 tons a year. In 1735, however, it was discovered that coke was an excellent fuel; then it was found that by blowing a powerful draught of air through the furnace greater heat was obtained and the ore more thoroughly smelted. Thus iron and coal were linked together, to

their common good. But the iron that ran out of the smelter was cast iron ; it contained too much carbon and other impurities, and was therefore too brittle for many purposes. It would break rather than bend. The next problem was therefore to find a cheap way of reducing the carbon content. In 1783-5 Onions and Cort discovered that by "puddling" or stirring the molten iron some of the impurities were brought to the surface and burned away when they came in contact with the oxygen in the air. What was left was still far from pure, but it was malleable, and would bend without breaking.

About the same time rollers were invented for making rails, plates, girders, etc. Formerly most iron goods had been shaped by hammering the red-hot metal, but this method would never have been able to meet the demand for rails and thin plates, created by the railway, the engine, and the iron ship. Now the needs of machine and engine makers could be met without difficulty, and the output of iron grew over seventy-fold between 1740 and 1840.

*Steel.* After cheap iron came cheap steel. Steel could not yet be produced in large quantities or at a price that allowed it to be used for big structures. It was still made in small crucibles, cost £50 a ton, and was used only for tools and cutlery. The problem was how to expel all the carbon from iron, and then put back the specified small amount needed to give the steel its properties. In 1856 Henry Bessemer, a professional inventor, solved the problem. His plan was to blow a very powerful blast of air through the liquid iron; the air came in contact with the carbon, which was thus burnt out. Then to the pure iron left in the container—or *converter*, as it was called—a carefully measured amount of carbon was added. Thanks to this simple

and cheap process, steel fell eventually to about one-sixth its former price, while the production in Great Britain increased sixfold within fifteen years. Ores which contained other impurities such as phosphorus, eventually yielded to treatment, and so the iron age gave place, after about 1860-1870, to the steel age.

*Metallurgy.* Since that time metallurgy has grown to be a big science, and research has added much to the methods of treating metals during the last forty years. We now know that by the addition of small quantities of other metals, such as nickel, tungsten, or vanadium, steel can be given added strength, hardness, resisting power, etc., and so steel is now "dosed" in various ways to fit it for its work in machines, cutting tools, springs, armour, plates, shells, etc. Other metals have presented similar problems of extraction and refinement, and, in each case, research has sought to find cheaper ways of treating ores, to extract the last particle of metal, and to render profitable the treatment of low-grade ore. In these days there are gold mines that can be worked at a profit even though 75,000 to 100,000 tons of rock have to be treated to get one ton of gold.

One of the chief contributions of science  
**By-products** was the discovery of uses for things that would otherwise have been wasted. For instance, the scientist turned his attention to the waste products of the gas-works. Even in the 18th century coal was realized to be more than a fuel, and by 1790 coal gas was being used in a few places to light houses, shops, and offices. People gaped at the gas-lights in shop-windows and wondered how the storekeeper managed to light the end of a piece of lead pipe, while economists were doubtful whether the benefits of better

illumination were not cancelled by the evil that would befall the whale fishery when the demand for whale oil for lamps declined. Then the scientist began to experiment on coal tar, a waste product of gas-making, and eventually unearthed over 200 different by-products, ranging from high explosives and disinfectants to ammonia, aspirin, saccharine, wintergreen, and scores of aniline dyes. In the same way he turned to treat the refuse obtained in refining petroleum, and found about 200 different by-products, including drugs and illuminants, lubricants and vaseline.

**Obstacles to Progress** We have described big revolutions in a few paragraphs, but we must not therefore think that the changes were rapid.

At first they came slowly, in the face of great obstacles, and only began to gather speed when, after about 1850, the early impediments had been brushed aside and a growing body of scientific knowledge was available. Many early inventions were crude, and big improvements had to be made before the new equipment could hold its own, in cost or in quality of product, with the old. Then there was often a lack of the necessary capital or satisfactory labour. Watt might have abandoned all hope of making engines if he had not met Boulton; and Wedgwood confessed that in his efforts to build up a high grade of production he was "teased out of (his) life with dilatory and drunken, idle, worthless workmen".

Finally, there was the inertia of manufacturers who were satisfied with the good old ways, and the hostility of workers who saw that their manual skill might be rendered worthless if new methods were introduced or new commodities killed the demand for old ones. The woollen manufacturers tried to check the use of cotton

goods, and declared that the new textile machines used in Lancashire after 1770 would "prove the most fatal discoveries made in Old England" if they were "suffered to destroy our woollen manufactures". The Birmingham shoe-buckle makers resented the adoption of "the effeminate shoe string" when "fashion, void of feeling and deaf to argument", made the shoe-lace displace the buckle. Coal miners refused to exchange their candles for the new Davy safety lamps, and workmen tried to prevent the introduction of the new machines or the building of factories in which to house them. They appealed to parliament to preserve the good old order, and when parliament refused, they occasionally rioted, burned mills, broke machinery, and assaulted employers.

All such efforts eventually failed. By 1850 the factory system had come to stay, and "improvement" and "progress" became two of the most popular words in the economic vocabulary. Between 1763 and 1852, over 22,000 patents were granted in the United Kingdom, against 1,000 in the preceding 150 years; between 1852 and 1870 nearly 37,000 patents were taken out, and the number grew even more rapidly after 1870. So many wonderful things had been devised that some men believed that nothing was impossible; patient research would surely solve the problem of perpetual motion, and a writer in 1830 prophesied that when the world's coal supply was exhausted, Iceland would be able to export power obtained by bottling the heat of its hot springs and by using its cold climate to liquify gases cheaply. The more extravagant hopes gradually faded, but the belief that most other things were possible remained, and, as the century progressed, industry, like agriculture and transport, leaned more and more on the work of the scientific researcher.

**The Revolution in Transportation**      *Canals.* Water communication was necessary in order that foodstuffs, coal, and heavy materials could be moved cheaply, and that fragile goods, such as pottery, might be shipped with less breakage. After 1700 rivers all over Western Europe were made more navigable, but canals received little attention till 1760. By that time coal was in greater demand, but cartage costs were high. Wedgwood wanted water transit for his clay, and landlords began to see that canals would increase the value of the timber and minerals on their estates. Hence, when the first canal linked Manchester with a coalfield, reduced the cost of coal by half, and the freight by three-fourths, an era of canal construction began which eventually linked up all the main rivers, gave short cuts from coast to coast, and provided the industrial areas with cheap transportation.

*Turnpikes.* Coachmen and inn-keepers opposed the coming of canals, and cried out that water traffic would diminish the breed of horses, injure the coasting trade, and weaken the navy. But the coachman's turn soon came. When the Young Pretender invaded England in 1745 and penetrated to within 130 miles of London, English troops could not get at him quickly because of the lack of good roads. Therefore, when the rebellion had been crushed, the government set to work making highways for military use, both in England and Scotland, and encouraged road-making everywhere. So came the turnpike era. Groups of local traders and landowners were given authority to repair old tracks or make new ones; then those who used these turnpike roads had to pay tolls, the proceeds of which were spent in keeping the road in order. In this way England was gradually covered with a network of turnpikes.



# YORK Four Days Stage-Coach.

*Begins on Friday the 12th of April 1706.*

ALL that are desirous to pass from *London* to *York*, or from *York* to *London* or any other Place on that Road: Let them Repair to the *Black Swan* in *Holborn* in *London* and to the *Black Swan* in *Coney Street* in *York*.

At both which Places they may be received in a Stage Coach every *Monday*, *Wednesday*, and *Friday*, which performs the whole Journey in Four Days (*if God permits*). And sets forth at Five in the Morning.

And returns from *York* to *Stamford* in two days, and from *Stamford* by *Huntingdon* to *London* in two days more. And the like Stages on their return.

Allowing each Passenger 14 lb. weight, and all above 3d. a Pound.

Performed By { *Benjamin Kingman.*  
*Henry Harrison.*  
*Walter Baynes.*

Also this gives Notice that *Newcastle Stage Coach* sets out from *York* every *Monday* and *Friday*, and from *Newcastle* every *Monday* and *Friday*.

## A STAGE-COACH TIME-TABLE.

To-day the journey from *London* to *York* takes only four hours, and to *Newcastle* six.

This revolution in road-making met two obstacles. In the first place, although those living alongside a road might no longer have to do statute labour on it, they had to pay tolls when they used it. This they resented bitterly; why should they have to pay for something they did not want? For a while there were turnpike riots in some parts; bodies of armed men burned down toll-houses, took the toll-gates off their hinges, and blew up the gate-posts. The soldiers were kept busy, and even when this discontent died down, travellers complained that they were always having to halt and pay. During the 19th century the toll system was gradually abolished, the roads were made free to all, and the cost of construction and maintenance was placed on the local or central governments.

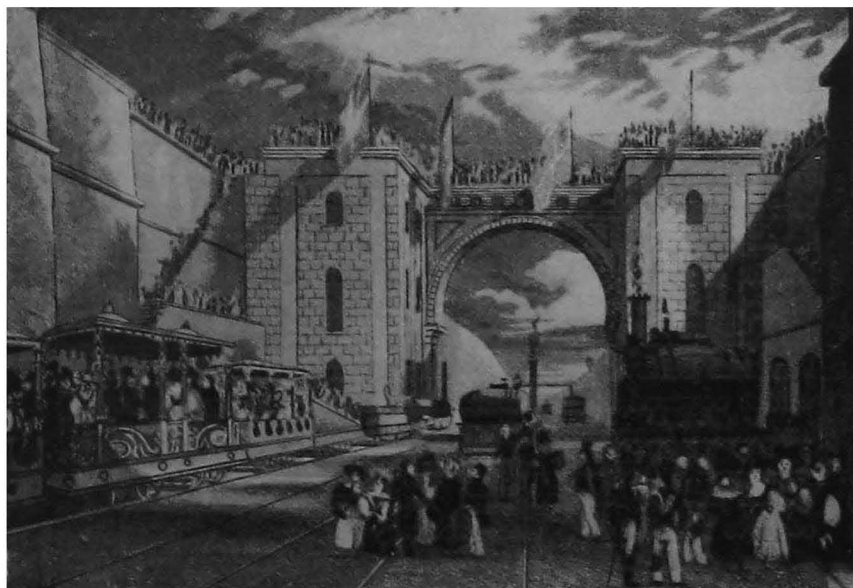
In the second place, there was a lack of knowledge of how to make a good road. Some early turnpikes were as rough as their predecessors; the road engineers did not know how to make a good durable surface, and they often took the shortest route from the bottom to the top of a steep hill. "The engineers of those days used a corkscrew oft enough, but they had not learnt a lesson in road-making from it". But gradually they learned how to use hard stone and bind it together under pressure, and steam engines were designed to supply the pressure; embankments were built across swamps, steep gradients were eliminated, bridges were improved, and by 1830 most parts of Western Europe had splendid highways. By that time about 3,000 coaches were running in England, and from some London inns over a hundred coaches went each day. Their speed crept up from three or four miles an hour to seven or eight; some drivers even dared ten miles, but when the Liverpool to Manchester coach in 1817 did the greater part of the journey at the rate of 14 miles an hour—which was

twice the speed of the royal mail coach—there were complaints and loud calls for a magistrate's investigation.

*Railroads.* By 1830 canals and highways were at their best. But travel on them was still slow; the canal barge, pulled by horses, moved only about three miles in an hour, and a 200-mile coach journey occupied two days. Greater speed was wanted, and that want was met by the railway. The railway came in two stages; first came the provision of a track on which vehicles could be pulled more easily than was possible on ordinary roads; then came the application of steam.

Even in the 17th century some collieries had run their carts on flat wooden strips laid on the road; in the next century iron plates with an inner flange replaced wood, and then the flange was transferred from the rail to the wheel. Thanks to such a "waggon way", coal could be hauled much more cheaply, and it was claimed that on one of these tracks—in Munich (1819), — a woman or child could pull a cart laden with 15 cwt. of goods, while a single horse was able to do work that would require at least 22 horses on the best ordinary roads. At first it was thought that those who built railroads would merely provide the track, on which folk would be allowed to run their own coaches on payment of tolls, just as they ran them on the turnpikes; it was suggested that coaches should have wheels so constructed that they could run on rails or on the highway; and there was much debate whether a railroad should run continuously on, taking gradients as they came, or be built level, with locks to surmount hilly country, like those used on canals. Even after the steam engine had been adapted for haulage, passenger traffic on the first railway was for nine years carried on with horse-drawn coaches, and private vehicles were allowed to use the line.

The engine came long after the rails. In 1802 Trevithick devised a steam-engine which drew coal trucks at a South Wales colliery. Twelve years later Stephenson used an engine at the colliery at which he was engineer, and when in 1821 a company planned to construct a wooden track for horse wagons between Stockton and Darlington, he persuaded it to use iron rails and give steam a trial. This line was opened in 1825; the little engine, weighing 7 tons, drew a load of 90 tons at four to six miles an hour, yet even then its chimney got red hot; a man on horseback cantered in front of the train to clear sight-seers off the track, and a few honoured passengers were allowed to ride in coal trucks. But at least the engine did its work, and the price of coal in Darlington fell by over half.



The Opening of the Manchester and Liverpool Railway

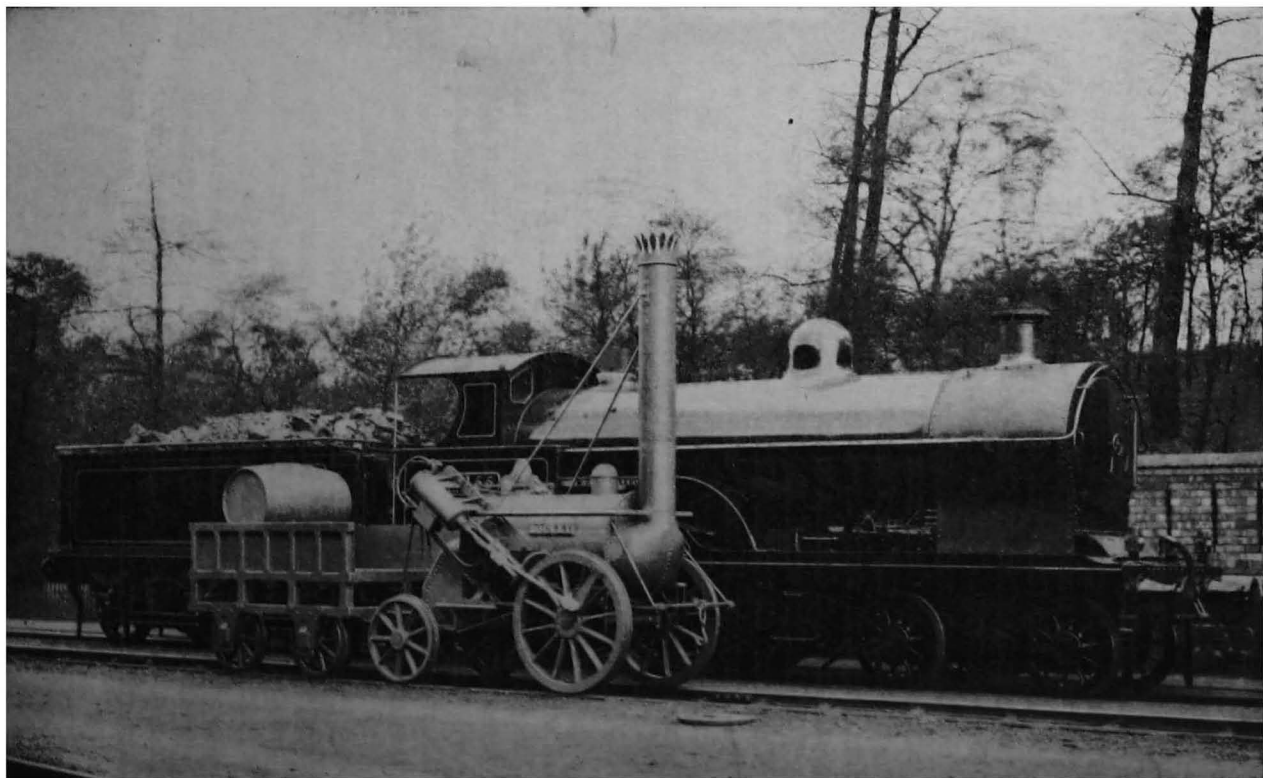
Soon another line was planned, from Liverpool to Manchester. It was opened in 1830, when Stephenson's "Rocket", which was a big improvement on his earlier engines, pulled a train 35 miles at an average speed of 14 miles an hour. In a short time that line was carrying 1,200 passengers a day, and for the next twenty-five years railroad construction was active throughout the country. By 1860 Britain had nearly half as many miles of track as she has today; by 1850 there were railroads in 14 countries, and British capital and labour were beginning to aid in the construction of lines in almost every habited part of the globe.

The railways had to fight hard to win the important place they now occupy in the commercial scheme of things. Only slowly did they solve their technical problems. Boilers burst, bridges collapsed, driving-wheels broke, engines were derailed, gradients were left too steep, collisions were numerous, far more power was wasted than was consumed, wear and tear were costly. Even before the first sod was turned the early lines had to meet the opposition of vested interests. Turnpike and canal owners, innkeepers, and coach proprietors, saw that trade would be stolen from them by "this smoky substitute for canals". Graziers feared that the smoke of passing trains would discolour the wool of their sheep, or that the "rumbling, hissing serpent" would frighten their cattle and prevent them from fattening. Farmers believed their crops would be set on fire, their wheat covered with smoke, their oats and hay rendered unsaleable because of the abandonment of horse traction, and their cows and hens so scared that milk and eggs would not be forthcoming. Landowners saw their fox coverts ruined and their scenery smudged; the press pictured the tragic fate of birds poisoned as they flew over the engine, and the "fatigue, misery and danger (to passengers) of being dragged through the air at

twenty miles per hour, all their lives at the mercy of a tin pipe, a copper tube, or a pebble in the line of way".

This hostility sometimes led to brutal assaults on surveyors and engineers, who were "looked on as magicians, evil geni, or unclean spirits, whose unearthly object was to fright the land" out of its prosperity; it led some towns and landowners to refuse to let the line come near their property. Above all, it led to long and costly investigation and discussions in parliament before a company got permission to build a line. In 1845-7 over \$50,000,000 was wasted in these parliamentary inquiries and struggles—enough to have built a very good line from London to the north of Scotland.

But the lines were laid. They ate up too much capital, they made all the mistakes of pioneer ventures, and far too many small local or competing companies were established. Yet they slowly improved, technically and commercially. Engineering science and metallurgy helped them to overcome the technical obstacles; Bessemer steel allowed stronger engines, bearing higher steam pressures, to be run on steel rails, the average life of which was ten or twelve times that of an iron rail. Signalling devices were improved, the telegraph was adopted to link up stations along the line, special trucks were built for different kinds of freight, breakdowns became more rare, and speed, combined with safety, became a feature of passenger traffic. By 1860, speeds of 30, 40, and even 50 miles an hour could be maintained, but not till about 1900 did regular "mile a minute" or long, non-stop runs of 175 or more miles appear in the time-tables. Greater efficiency was achieved as the many small companies amalgamated into fewer large ones; by linking up local lines it was possible to establish long-distance trunk services under one management. Hence the early competition gave place to a movement toward amalgamation. One British line swallowed up



**Stephenson's Rocket and a modern locomotive**

115 smaller ones, and by 1914 the many hundreds of British railroad companies had been reduced to 26 large companies and 93 subsidiary concerns. These were further concentrated by the state in 1921 into four giant companies.

*Effects of the Railroads.* In old countries the railroads linked up existing centres of population, supplementing or displacing the roads and canals. To some degree they killed long-distance road and water traffic, especially in England, where the railroads bought up many of the canals and either let them go into disrepair or refrained from improving them in any way. In parts of continental Europe water and rail facilities supplemented each other, largely because both were in the hands of the state. In Germany, for instance, nearly 9,000 miles of navigable river or canal, and about 35,000 miles of publicly-owned railroad, were operated as parts of one general system of transportation, giving access to every part of the country and reaching out for contact with nations on all three land frontiers.

Some old world areas, whose development had been checked by climate, mountains, or lack of a coast-line, were stirred by the railway into more vigorous life. Russia was a country whose seas were land-locked, or were frozen in winter, whose rivers meandered into Arctic or inland seas, and whose soil contained little good stone for road-making. The railroad overcame most of those obstacles, brought the various parts of the country into touch with each other, allowed Russia to expand eastward, and gave her produce a more important place in the markets of Europe. In short, the railroad knit continental Europe, and especially that part of it east of the Rhine, into a compact whole, housing in 1914 about 400,000,000 people, and made possible an easy flow of goods between the Arctic Ocean and the Mediterranean, and from the North Sea to the Urals. The



British railroad stopped at the coast; the continental line crossed one frontier after another, reached the eastern end of Siberia in 1901, and was pushing its rail-head down the road to Bagdad and India when the war broke out in 1914.

In new countries the railroad pioneered, and as it went out into the wilds it opened the way for new settlement. How it did this in North America we shall see in a subsequent chapter. In India, not a new country, but an old one that had stood still for centuries, the railroad was partly a weapon for fighting famine, by getting produce from places where there was plenty to places where there was a shortage. In Australia internal communication was difficult because of the lack of navigable rivers. Sheep and cattle could transport themselves, but there must be railways if wheat, meat, wool, and minerals were to be carried to the sea-ports.

In Africa the problem was partly one of covering long distances on the inland plateau that stretched northward from the Cape to Rhodesia; but it was even more that of circumventing falls and rapids on the rivers, and of crossing the unhealthy low-lying coastal belt. In places this belt is "marshy and swampy, a paradise for wild fowl of all kinds, the home of the alligator and the hippopotamus. All over it fever hangs like a death-bearing cloud; it forms an almost impassable barrier between the sea and the uplands of the interior". The tsetse fly stung and killed all forms of draught animals, except the donkey—and donkeys are "especially palatable to lions". The only possible transport was therefore on the negro's head, but "as a beast of burden man is out and out the worst. He eats more, gets over less ground, is more expensive, more troublesome, and in every way less satisfactory than the meanest four-footed creature that can be trained, induced, or forced to carry a load". Yet, in tropical Africa, as in many other

equatorial regions, it was man or nothing. But once railways came, the tsetse fly could bite the engine to its heart's content; the train ran on, and by 1900 Africa was ceasing to be "the dark continent".

*The Automobile.* Until the nineties the railroad held unchallenged control of rapid, long-distance transit. Then came the gasoline engine, the product of many experiments in Europe and North America, and in less than a quarter of a century a powerful new means of transport was built up. In 1899 the United States produced less than 4,000 cars, and a few were manufactured in France, Germany, England, and Italy. But technical improvements came so rapidly that by 1905 the motor car was ceasing to be "as temperamental as an army mule", and jokes about the relative merits of cab-horses and cars were becoming stale. During the next twenty years the automobile invaded the whole world, and its production became one of the largest industries. In 1925 about 25,000,000 cars and trucks were in use in different parts of the world; of these nearly nine-tenths were in the United States, with Canada, Great Britain, and France following next in order, but far behind.

In every land the car or truck is displacing the railroad and horse in the haulage of people or goods, for journeys up to 50 or 75 miles; it is supplementing and feeding the railroad by establishing radial routes from rail sidings and termini; it is helping the farmer to work his land and transport his livestock and produce; it is dispersing city populations by bringing outlying residential areas into quick contact with the centre; and it is giving rapid, cheap movement over remote areas where railways are unknown. In its growth it has stimulated new demands for steel, aluminium, nickel, and other metals, and for glass, timber, and rubber. It has brought a new industry into being and revived

an old one—roadmaking, with the consequent demands for gravel, sand, tar, cement, and labour. It has made life more flexible, allowed people to move about as they never formerly did, changed the character of our holiday-making, and given hospitals and insurance companies more work and worry. It has given value to oil fields and its appetite for rubber, oil, and other commodities may one day make those goods the subject of bitter international disputes.

**The Revolution at Sea** While steam revolutionized production and transit on land, it was also making far-reaching changes in sea travel, though there for a time it met with strong opposition from a highly-developed type of sailing ship. The sailing vessel had improved and grown larger during the 17th and 18th centuries; more masts and canvas had been added, vessels were made proportionately longer and looked less like floating tubs, while their carrying capacity grew to 1,200 or even 1,600 tons. When cheaper iron became available it slowly displaced oak, teak, and pine for hulls, masts, and rigging.

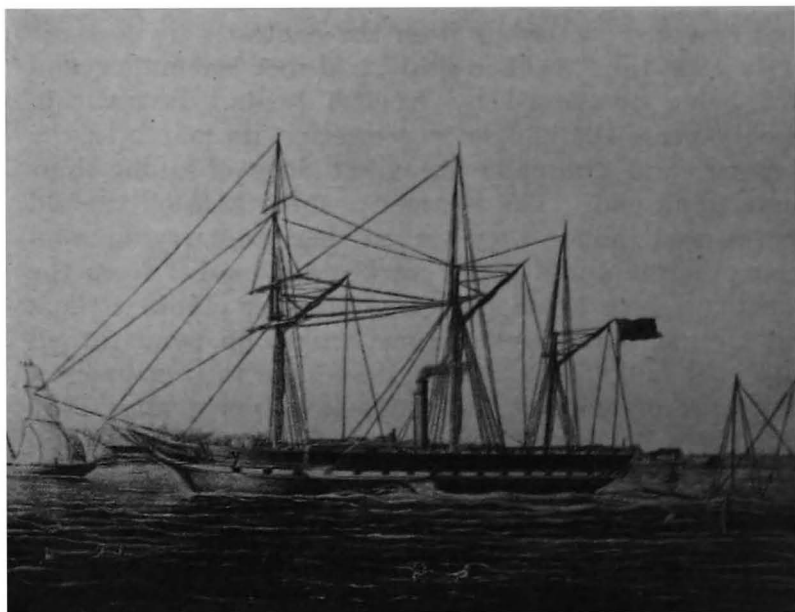
*The Clipper.* The sailing ship reached the height of its fame about the middle of the 19th century, in the *clipper*. The clipper was designed by builders on the Atlantic coast of North America, and was shaped in such a way that it cut through the waves with its rakish, knife-like stem, instead of bumping into them as did the broad-bowed European merchantman. When made of North American soft pine or elm, it cost little to build, and its sharp nose and narrow beam gave it speed when its rigging was crowded with canvas. When the East India Company's monopoly of the Asiatic trade ended in 1833, American clippers went out to China to

pick up tea. The first cargo from each year's crop landed in London always sold at a high price, so there was keen rivalry between the boats sailing from China to London. At first the clippers always won, and alongside them the British ships were so slow that they were nicknamed "tea waggons". Soon, however, Scottish shipbuilders began to copy the American design and, building in oak or iron, they eventually launched vessels that emerged victorious from the contest.

By 1860 the "Yankee ship" had met her match, and was being outclassed by English boats. But within twenty years the clipper was meeting its match in the steamer, and gradually the great days of sailing ships came to an end. The steamer pushed them off the old routes, and though they turned then to carrying wool from Australia, and grain, nitrates, or lumber from the Americas, here again the cargo steamer elbowed them out. Some were wrecked, some broken up, some turned into coal hulks; the war of 1914 gave the survivors a new lease of life, but the slump in shipping after 1920 sent them back into enforced idleness. Between 1860 and 1910 the tonnage of British sailing ships fell from over 4,500,000 tons to 1,100,000; that of United States sailing vessels registered for foreign trade dropped from 2,500,000 tons in 1860 to 235,000 in 1910. One may steam round the world today and never see a big ship flying along under a spread of canvas.

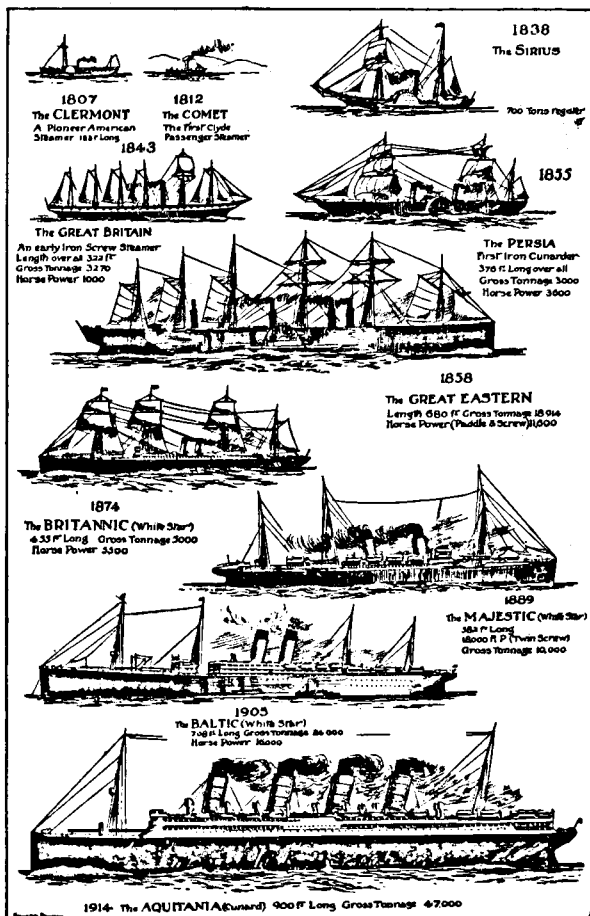
*The Steamship.* At various times during the 18th century attempts were made to use steam engines for driving ships, and Robert Fulton reaped the honours of nearly a century's effort when in 1807 his *Clermont*, built in America and driven by an English engine, steamed up the Hudson from New York to Albany. About this time paddle-wheel boats began to ply for short journeys from London and Glasgow, and even

crossed the Irish Sea and English Channel. In 1819 the *Savannah*, a sailing ship fitted with a small engine, and using paddle wheels which could be lifted out of the water when not at work, crossed the Atlantic in 29 days; but she used the paddles for only 80 hours, and a government cutter chased her a whole day off the Irish coast, thinking she was on fire.



The *Royal William*, a Canadian-built steamer and the first to use steam all the way across the Atlantic

A sail-less ship still seemed the height of foolish dreaming to many people. "The introduction of steam is calculated to strike a fatal blow at the naval supremacy of the Empire", said the British Admiralty. "One might as well try to steam to the moon as across the Atlantic", said a British scientist, and the frequent fires and boiler explosions—due to wooden hulls and defective



The evolution of the steamship, showing relative dimensions

safety valves—on the small packet boats suggested that mishaps at sea would be frequent and terrible.

In 1833 a Canadian-built vessel, the *Royal William*, went to London, using steam all the way; in 1838 two steamers began regular services between America and England, and in 1839 the Cunard Company was founded by Samuel Cunard, a native of Halifax, N.S. Improvement was rapid during the next twenty years; wooden walls were built on iron frames; ships made all of iron were constructed; the paddle wheel was displaced by the propeller, and engines became larger and more powerful. Men talked of mammoth iron vessels, and one, the *Great Eastern*, was actually built in 1858. She measured 680 feet in length, had a gross tonnage of 19,000, and could carry 10,000 tons of coal, 6,000 tons of cargo, and 4,000 passengers. But she was before her time, and proved a disastrous failure commercially. Not till 1901 was another boat built so large.

Of the subsequent improvements in shipbuilding we can say little here. The coming of cheap steel allowed boats to be built larger and yet lighter than were those of wood or iron; marine engines were improved, and boilers were designed through which a more powerful draught could be blown in order to burn more coal and get more speed. The wastage of heat and exhaust steam, which makes the railroad engine so inefficient, was avoided by introducing compound engines, so that the steam, having done some of its work in one cylinder, then passed on to others. The steam turbine, introduced after 1890, started a new era in the history of shipping, for it required less steam (and therefore less fuel), lighter machinery, less space for the engine, less oil and labour; it made less noise and vibration, and gave openings for the development of much greater speed. Thanks to the turbine, torpedo boat destroyers could travel at between 30 and 40 knots an hour, while Atlantic

greyhounds could contest for the "blue ribbon" of that ocean at speeds creeping up to 25 or 26 knots an hour.

For sixty years steam meant coal. But coal occupied a large part of the space that might have been filled with cargo; it was dirty to load, and those who fed it into the furnace worked under conditions which at their best were those of an inferno. When therefore in 1904 a vessel steamed from California round Cape Horn to New York, using oil instead of coal as fuel, another new chapter in shipping history began. Crude petroleum, or the heavy residue left over after the distillation of gasoline, possessed so many advantages as a fuel that its victory over coal was soon certain. A ton of oil gave nearly 50% more steam than did a ton of coal, and its volume per ton was about one-third less than that of coal; it was easily taken on board by being pumped out of lighters; it could be stored in places where coal could not be put, *e.g.*, in the ballast tanks, and as it was fed into the furnace through sprays an army of stokers could be dispensed with. The labour cost of feeding the furnace was reduced by over half, more space was available for cargo and passengers, the dirt and discomfort of coaling was eliminated, and speed could be increased by turning on more oil. Hence even before 1914 new ships were being built to burn oil, old ones had their furnaces altered so that they could use oil or coal, and leading navies were abandoning coal. By 1925 a third of the world's merchant shipping was using oil fuel, or was fitted for using oil or coal.

*The Motor Ship.* By 1925 another new chapter in the history of shipping had begun. Once the automobile engine became efficient for use on land, it was inevitable that attempts should be made to apply it to sea transit. In 1903, a German, Dr. Diesel, crowned ten years experimental work by producing a satisfactory marine



engine of the motor type, except that there were no sparking plugs, and that heavy oil was used instead of gasoline. This engine had even greater advantages than the oil-burner, for in addition to a saving in space, fuel, and labour costs, it needed no boiler or supply of fresh water, took up no room for funnels, and could be easily started. One ton of oil gave the same power as four tons of coal burned in a boiler, and the storage room required for fuel was so small in proportion to the distance travelled that Dr. Diesel once claimed that a motor-driven battleship could sail round the world and fight battles without calling at any port to take additional fuel on board.

At first the Diesel engine was used in areas where coal was scarce and oil plentiful, especially on the Volga and the Caspian Sea. But soon it was adopted in other regions, and in 1910 the *Toiler*, an English-built ship with Swedish-built engines, crossed the Atlantic and entered the grain trade on the Great Lakes. Since the war large passenger vessels have been fitted with Diesel engines, and in 1926 nearly half the tonnage in course of construction was to be fitted with motor engines.

*Passenger and Cargo Ships.* The most spectacular feature of the shipping revolution was the building of ever bigger, faster, and more luxurious liners for the North Atlantic trade. Competition between German and British companies led to rivalry between mammoth ships, one of which could boast that it was nearly 1,000 feet long, had a gross tonnage of 56,000, could accommodate 4,100 passengers, and was so huge that "four times round the promenade deck is one mile". Its first class rooms were fashioned to equal those of the most sumptuous hotel, and its normal day's run was about 550 miles. But these giant passenger ferries across the "herring pond" represent only a very small

part of the world's shipping services. They carry little cargo, and there are few harbours into which they can go. The greater part of the passenger traffic, even on the North Atlantic, is carried by boats of 10,000 to 20,000 tons, which carry a large amount of cargo, and travel between 350 and 450 knots a day. Then, after the middle-sized liner, which moves back and forth on a fixed route with the regularity and punctuality of an express train, comes the vast fleet of cargo vessels, ranging in size from less than 1,000 tons to 15,000, and steaming at 8 to 12 knots an hour. Modern ocean commerce is typified by these vessels rather than by the trans-Atlantic floating palaces.

*Types of Cargo Ships.* In developing cargo steamship service there was some division of labour and specialization. Some vessels kept to one route and called regularly at certain fixed ports. Others were "tramp" steamers; they were willing to go almost anywhere and carry almost anything. The bulk of the world's heavy and miscellaneous carrying trade is done by "tramps", and probably half Britain's pre-war tonnage was composed of these vessels. They were small—about 2,000 tons as a rule—and slow, but had large cargo capacity. Wheat, wool, ore, cotton, coal, the cargo mattered little. Colombo, Melbourne, New York, Montreal, Hong-Kong, all might be visited if there was cargo to be taken or picked up. Normally a large part of Canada's wheat is taken to Europe in tramps; but in the summer of 1926 the Montreal elevators were full to overflowing and scores of lake or river boats were lying unloaded because the "tramps" had gone, tempted by higher freights, to New York to pick up coal for England during the long British coal strike.

Other vessels were built to handle special cargoes. The growth of foreign trade in oil called for the "tanker";

to connect the Lake Superior iron ore ranges with the Pittsburg blast furnaces large ore carriers, easily loaded and emptied, had to be built; and Britain's coal export trade called for special "colliers". The shipment of live stock for long sea voyages was very precarious; journeys which involved the crossing of the Equator were unprofitable, since cattle could not be carried below deck, and even the run across the North Atlantic often meant severe suffering to cattle and heavy loss to their owners. But until a satisfactory way could be devised for carrying meat, the beef of the Argentine and the mutton of Australasia could not be exported; apart from supplying the local butcher's shop, cattle could be reared only for their hides and fat, sheep only for their wool and tallow, while butter and fruit could not be shipped to the big markets of Europe.

In 1881 a cargo of solidly frozen Australian beef and mutton was landed in England, and from that date improvements in refrigeration methods allowed not merely meat, but also such other perishables as dairy produce and fruit, to be shipped half-way round the world, through the tropics, and delivered in good condition at European ports at the end of a five to eight weeks' journey.

While the tramp steamer revolutionized the trade in heavy cheap commodities, the refrigerated ship revolutionized the food trade. It brought new cheap supplies of perishable products to the crowded countries of Europe, and in 1912 the United Kingdom alone imported 17,000,000 carcasses of beef and mutton. To new countries it gave a vast new distant market for goods that could formerly be sold only locally. North and South America, South Africa, and Australasia benefitted especially when Europe thus came within their reach. Freezing works, cold storage warehouses, refrigerated railroad cars, all helped to expand and improve the new

trade, while ships were built capable of carrying 150,000 or even more carcasses.

**Further Inventions and Improvements** The railroad and steamship did much to abolish distance. In this they were helped by the ship canal, the post office, the telegraph, the telephone, "wireless", and the aeroplane.

*Ship Canals.* The Suez Canal, opened in 1869, reduced the journey from London to Calcutta by one-third, or nearly 4,000 miles. The Panama Canal, cut through an isthmus on which 16th century explorers had vainly searched for a channel, was opened in 1915, and created important new sea-routes. It eliminated the long journey round Cape Horn, and reduced the distance between New York and San Francisco from 13,000 miles to 5,000; it nearly halved the journey from New York to Valparaiso, and generally brought the east and west coasts of America closer together. It also lessened the distance between the Pacific Coast and Europe; Vancouver jumped 6,000 miles nearer to London, and thus became another outlet for the products of the western prairies. It brought the Far East and Australasia nearer to New York than to London, and thus promised to give American manufacturers and ships an advantage over Europe in those markets. Valparaiso is now 2,500 miles nearer to New York than to London, Vancouver 2,600, Sydney (Australia) 1,600, Wellington (N.Z.) 2,600, and Yokohama, 1,000 miles.

*The Post Office.* Postal facilities slowly improved during the 18th century, and their provision became recognized as a government duty. Rates were roughly proportionate to the distance the letter had to be carried, and the person who received the letter paid the postage; but in the eighteen-thirties Rowland Hill analysed the

cost of postal service and found that distance made very little difference. The real cost lay in weighing the letter, detecting things that had been enclosed in it, and collecting the money on delivery. Why not charge a flat rate, say of a penny for all letters up to a certain weight, abolish collection on delivery, and make the sender put a stamp on? In 1840 Great Britain therefore introduced the penny post; during later years other nations lowered their charges, and an efficient, cheap international postal service was evolved.

*The Telegraph.* The telegraph and telephone depended on an understanding of electricity, and by 1840 enough was known of it to make the telegraph possible. At first it was in the hands of the railways, who used it for their own work; but public use soon became general. Newspapers realized the value of the new device, and press telegraphic services were set up. In 1851 a submarine cable was laid from Dover to Calais, and during the sixties trans-oceanic cables came into use.

*The Telephone and Wireless.* In 1876, in Boston, Alexander Graham Bell, after many experiments at Brantford, Ontario, called over a wire to his assistant in an adjoining room, "Mr. Watson, come here. I want you." The telephone was slowly improved and slowly adopted; in one Canadian district only one subscriber could be secured, and as there was no one he could ring up he had to be given his money back. That was less than fifty years ago, yet on the fiftieth anniversary of Bell's first message, people in London and New York talked to each other, and church bells ringing in London were heard across the Atlantic.

The development of wireless was the work of many scientists, whose discoveries made possible the establishment of long-distance *telegraphic* transmission after 1899. In that year messages passed, in dots and dashes,

from England to France; in 1902 they were sent across the Atlantic; in 1904 the *Campania* published a daily paper of wireless news while she was at sea, and in 1906 the first successful experiments were conducted in wireless *telephony*. Nine years elapsed before a voice was sent across the Atlantic, and the instrument that was used required 500 radio tubes. Since then, at an astonishingly rapid pace, the technical difficulties confronting transmission and reception have been solved; a regular trans-Atlantic service is at work, and radio television is being explored as the next possible line of advance.

*Aviation.* Aviation has as yet made little impression on commerce, though it may do so in a marked degree within our generation. The development of flying began with long periods of failure, and its progress was marred by bad accidents. The gasoline engine solved the problem of power, but the designing of a satisfactory aeroplane took a long time. Five years before the war an "aviation meeting" was largely a study in still life, for planes often refused to leave the ground, while the dirigible Zeppelin balloons built in Germany met with disaster after disaster. But the war so stimulated technical advance that the progress in four years of war was probably greater than would have been made in twenty years of peace. Speed, safety, manœuvring controls, all were improved, and when the war ended an efficient vehicle remained for the carriage of passengers and of goods which were sufficiently valuable to be worth carrying at high freight rates.

Hence Europe and some other parts of the world today have regular fast air services, and the air-route map of Europe is a network of connections. Germany has led in building up these services. In 1925 her commercial planes flew over 4,600,000 miles and carried

130,000 passengers, some of them going as far afield as Moscow, Siberia, and Asia Minor. From Moscow to Berlin, a journey of 1,000 miles, takes 56 hours by rail; by plane it takes eight. Thus people and mails can move more rapidly than could any express train, and accidents are extremely rare. But the lifting power of aircraft is still comparatively small, and so the plane, like the ancient caravan, carries goods small in size but large in value, or goods on which people are willing to pay heavy freight charges.

We can now sum up the results of this many-sided revolution in the means of communication. The first was *speed*. In July, 1926, two men reached New York after having gone round the world in 28½ days. Ocean liners, express trains, racing automobiles, and aeroplanes made possible this rapid girdling of the earth, two-fifths of which was done in the air. The "stunt" showed in an extreme form the conquest of space made since the steam engine was applied to transit: fifty years ago Jules Verne startled his readers when he imagined a trip round the world in 80 days. It must be remembered, however, that there is a limit to the development of greater speed. To increase the speed of the *Lusitania* from 24 to 26 knots, or 8.3%, an additional 50% of horsepower was required, and unless some big technical advance is made in marine engineering it will probably be unprofitable for the greater part of the world's shipping to try to cross the ocean more quickly than is done at present.

The second result was *regularity* and *punctuality*. Ships and trains run to fixed time-tables, and are rarely seriously delayed, even when facing an Atlantic gale or a snow blizzard, or when passing through the windless areas of the doldrums. The third result was *safety*,

alike for passengers and goods. On the railways of the United Kingdom in 1879, one passenger was killed out of every 7,500,000; in 1912 the rate was one passenger out of every 68,000,000. Growing precautions make travel more free from danger, while improvements in equipment, refrigeration, and methods of handling cargo in port have reduced the risk of loss, damage, or deterioration.

The fourth result was that *transport and commerce were freed from geographical and climatic limitations*. We can cross the Rockies, traverse the Great Australian Desert in comfortable trains, sail securely on the worst winter's day, pierce the Alps with a tunnel, defy the tsetse fly, circumvent rapids or waterfalls, and even at times fly over the North Pole.

The fifth result was *a change in the character of the commodities of commerce*. Heavy, bulky, or perishable goods of low value can now be taken long distances at comparatively small cost. John Masefield has compressed the story of this change in his poem "Cargoes", which recites and contrasts the goods carried by a "quinquireme of Nineveh from distant Ophir", a "stately Spanish galleon coming from the Isthmus", and a "dirty British coaster with a salt-caked smoke stack", and a consignment of cheap tin trays with a cargo of ivory.

It is a long stretch from the ivory and the Spanish gold to the tin trays. Today Canadian lumber can be sold in markets as far apart as London and Melbourne. Canadian wheat can be made into British flour, Canadian newsprint can be sent to Capetown and Auckland. The Englishman's larder is stocked with apples from British Columbia, oranges from South Africa, lamb from New Zealand, beef from Argentina, tinned pears from California, raisins from Australia, and butter from Denmark, Canada, Siberia, or the Antipodes. There



is keen competition between different nations in the sale, in distant markets, of such heavy goods as pig iron, steel, and cement. World trade today is a matter of heavy materials for industry, fuels, and necessities of the poor, not of luxuries for the rich.

The sixth result was *the growth in importance of hitherto neglected areas*, both in temperate and tropical regions. These areas were of little use in the eyes of the old world until (a) it was realized that they could produce important raw materials or foodstuffs; and (b) that those commodities could be brought to the coast and carried cheaply across the seas. The Canadian prairies were almost useless until transportation services were available to take their staple product to the markets of the world; nay, more, no one knew what the prairies were capable of producing until the railway went through them, just as the mineral wealth of Northern Ontario was unknown until railways were constructed through that region. The dairy districts of Siberia, New Zealand and Australia; the rubber, coco-nut or palm oil areas of Africa and the East Indies; the oil-fields of Persia; these, and a score of other regions became important only when cheap land and sea transportation facilities allowed people to get to them and permitted their goods to be taken to the distant markets.

One final result was *the increased mobility of people as well as of goods*. Political changes gave the population of continental Europe freedom from their old serfdom, and allowed them to go wherever they wished and practice whatever occupation they could. The French Revolution swept away the last relics of feudalism in France; Prussia, after her crushing defeat by Napoleon, began in 1807 to reconstruct her society on a basis of personal freedom, while Russia, after the Crimean defeat, took the drastic step (1861) of freeing her

25,000,000 serfs. In 1825 Britain removed the ban on the emigration of skilled artisans, and slavery was eventually abolished in America and elsewhere. Thus men were now free to go or stay as they pleased, to move from country to town, or to emigrate. But such freedom would have been empty had there not been the railroad and ever-improving shipping services to take the freedmen where they wished to go. Early emigration meant a long sea journey under distressing steerage conditions, but with quicker ships, food kept in the refrigerator, and better third class accommodation, the worst horrors of the emigrant ship were eliminated, and clean, cheap, comfortable conditions were created. In an increasing flood the tide of population therefore flowed from Europe to the new world north or south of the Equator, there to help in building up new settlements, new fields of production, and new nations.

**Supplementary Reading.**—See list at end of next chapter.

## CHAPTER VI.

### RESULTS OF THE REVOLUTIONS

**W**E have already seen some of the results of the revolutions described in the last chapter. But there are others at which we must glance. The general result of the revolutions was the production of our present industrial and commercial world, and for a detailed description of that world the student must turn to books on modern agriculture, industrial organisation and methods, international trade, the structure of markets, and the workings of our banking system. But a brief analysis of the most important developments in these and other fields is necessary here to round off the story.

There was a rapid growth of population during the 19th century. Goods of all kinds became cheaper, public and private health improved when the causes and cures of disease were discovered, and the fear of famine and pestilence disappeared; therefore those who were born had a better chance to keep alive. They had more varied food and more of it, better houses, more changes of clothing, and more sanitary living conditions. Hence between 1840 and 1923 the death rate per thousand in Great Britain fell from 23 to 11.7, and that of children under one year of age from 146 in 1850 to 70 in 1923. The average expectation of life grew much longer, and so every baby born had not merely a better chance of becoming an adult but could also hope to live longer than his grandfather had done. Therefore, even though most countries experienced a reduction in the birthrate during the 19th century, and in spite of the fact that Europe was

sending people into the new world, there was a continuous growth in population. England and Wales doubled their population between 1801 and 1851, and doubled it again between 1851 and 1911. Between 1870 and 1914 the German nation grew from less than 40,000,000 to nearly 70,000,000, and Russia from 100,000,000 in 1890 to 150,000,000 in 1914.

*Towns and Cities.* This growing population concentrated more and more in towns and cities. Europe in 1800 was a continent of country-dwellers, and in England and Wales only about one-fourth of the people resided in towns, all of which were small, except London. By 1900 three-fourths of the English population was town-dwelling, and, as other countries developed their manufactures and trade, large cities grew up. Sometimes the political capital was a commercial metropolis as well, and grew to great size, *e.g.*, London, Paris, Winnipeg, and Toronto, but in every land provincial industrial, financial, shipping, and marketing centres, such as Birmingham, Liverpool, Hamburg, Genoa, Moscow, or Marseilles, became large dots on the map. The industrial towns were built up especially on the coal fields, for it was easier to take the raw material to the coal than *vice versa*. The commercial cities grew large by serving the surrounding smaller towns and countryside; they became the selling centres, the places on which roads, railways and water-routes were focussed, they manufactured or gathered in from the outside world the wares the district wanted, they financed the activities of farm and factory, and sent forward to distant markets the staple products of their region. Chicago, Winnipeg, St. Louis, and Toronto are North American instances of places that grew up as economic mother cities, centres of large areas which they supplied with goods and services.

*The Factory System.* Manufacture passed from the home or small workshop to the factory, and from manual to mechanical processes. It was conducted on a large scale, with highly developed division of labour, and with large and costly buildings and equipment. The manufacturing industries of Canada in 1920 had \$5,000 of capital for every worker employed; the modern power-loom costs many times more than did the old wood hand-loom, and the type-setting machine used by the modern printer may cost \$6,000 while the old supply of letters used by the hand-setter would to-day cost about \$200.

The control of industry therefore passed out of the hands of small masters into those of men who could provide the necessary large sums of capital. These men either used their own money to set up a business which they ran themselves, or they pooled their funds with those of other people, established a company, and employed managers and directors to run the enterprise on their behalf. Thus there came a more marked cleavage of society into two sections. On the one hand were those who owned capital or land, or carried on enterprise with their own or other people's money; they sought to secure the greatest possible rent, interest, or profit, and often thought that their share would be larger if they could exploit the labour they employed, working it long hours and giving it low wages. On the other hand were the large masses of propertyless people, who were compelled to sell their labour to the property owners or controllers, and who therefore had no interest beyond that of getting the largest possible wage for their labour. From this economic cleavage many of our modern problems emerge; trade unionism, the strike or lock-out, the state regulation of wages, factory acts, and a score of plans for reform of our economic system,

all spring from the conflict of interests between capital and labour in sharing out the income of the world.

*Joint Stock and Limited Liability.* Some big business units were built up from small beginnings by one man, and there are many one-man firms at work today. Others began as partnerships, when two or three men united their money and efforts and worked in alliance, sharing the risks and the profits. But the risks were often greater than the profits, and no partnership could provide enough funds for the railroads, shipping, metal, and other big industries that grew up after 1820. A better plan for securing the necessary capital must therefore be found. The obvious method was the establishment of joint stock companies, but joint stock was still in ill odour because of its behaviour before 1720, and the British government frowned on all suggestions that it should be given a chance to redeem its reputation. But the needs of the times eventually compelled the government to reconsider its attitude after 1840.

Industry, transportation, and commerce wanted a kind of organisation that would attract capital from big and little investors. But the investor wanted something as well. He wanted his liability in a company to be *limited*, so that if the company failed he would lose only the money he had put into it. He did not want to invest, say, a thousand dollars if, in the event of failure, he was liable to have the rest of his money taken from him in order to pay the company's debts. This was what happened to partnerships. Further, since he would have to entrust his money to directors, he wanted to know exactly who they were, what they did with his savings, and what were the financial results of their efforts. Finally, those who sold goods or gave credit to the company must know the character and financial

position of their debtor. There must be limited liability for the investor, and publicity in the affairs of the company, for the benefit of the shareholder and the creditor.

In 1844 parliament abandoned the practice of making joint stock company formation difficult. It agreed that a company could be recognized when it had registered itself, and given the state a full description of its aims, structure, financial organization and the names of its directors. If it supplied this information, then the public was free to invest if it wished, but when the company got to work it must publish an annual financial statement and thus show its position to its shareholders, creditors, and incidentally its rivals. In 1855 some kinds of companies were granted limited liability, and in 1862 this privilege was extended to all. The public limited liability joint stock company was a great boon; it made possible the investment of comparatively small savings, gathered little heaps of money together into great piles, and thus allowed such a development of the world's resources as could not have been accomplished by the one-man firm or the small partnership.

**Modern Banking** The banking system had to expand and improve in order to meet the needs of growing industry and trade. So the banker became an important money merchant, buying the use of money from those who did not wish to invest or spend their savings, and then selling the use of it to those who wanted to borrow. Depositors could put their money in a safe place, and then pay their debts by drawing cheques; those who cared to leave their cash in the bank for a fixed period of 3, 6, 12 or more months got interest as well as safe deposit. Then the banker sold the use of the money left with him, and by charging the borrower a higher rate of interest than he paid the depositor he made his profit.

The early method of lending money was to print bank notes and give them to the borrower. These notes entitled the holder to present them at the bank and claim gold for them. But often bankers, in time of boom, issued too many of these notes, so when the inevitable crisis came they were unable to honour all their promises to pay gold and had to close their doors when the supply of metal coins had run out. Governments therefore learnt by bitter experience that the right to issue notes must be limited and regulated. In England the Bank of England was given (1844) a virtual monopoly over the note issue, and beyond a certain point was required to add £1 of gold to its reserves for every addition of £1 it made to its note issue. But this rule was unsatisfactory, and sometimes the Bank had to be given permission to meet a panic by issuing notes that were not backed with gold.

Other governments adopted somewhat different methods of regulation, but in each case the aim was to prevent the country from being flooded with paper money which would be worthless when a crisis came and every note-holder wanted to turn his paper into gold. But during the war of 1914-18 many of these safeguards had to be abandoned, more notes were issued without gold backing, the promise to redeem in gold was suspended, and governments issued large sums of paper money on their own account. Hence the currency of many countries sank into hopeless confusion, and only slowly, with much suffering, have some nations re-established their paper currencies on a sound footing.

*The Gold Supply.* From the above references to gold it will be gathered that currency and banking during the 19th century "worshipped the golden calf". Much more gold was therefore needed if gold was to displace silver as the standard of value, if bank note issues were



to be limited by the amount of gold available as reserve, and if growing production and commerce were not to be starved through lack of currency and credit. Fortunately there were some important gold discoveries during the century. In 1848 gold was found in California, and three years later in Australia. So rich were these "finds" that the gold output between 1850 and 1875 equalled that of the preceding 350 years, *i.e.*, since the discovery of America. After 1875 there was a lull in production as the new goldfields were worked out; but after 1890 the working of new areas in Klondyke, Johannesburg, and Western Australia, and the adoption of better methods of extracting gold from the ore, sent the volume of gold production much higher. South Africa was the chief producer of the period, and contributed more than one-third of the \$450,000,000 of gold mined in 1909. Between 1896 and 1910 half as much gold was taken from the ground as in the preceding four centuries.

Much of this new metal did not go into currency; some of it was "poured down the sink", *i.e.*, it went to Asia and was turned into articles to satisfy the Oriental's love of personal adornment; some of it went to goldsmiths, jewellers, and dentists, but a great part of it was added to the currency and credit equipment. It was turned into coins and so the spending power of the nations was increased; or, as coin or bullion, it went into the bank reserves, and the banks were therefore able to issue more notes or make more loans. The Bank of England, for instance, held gold worth £10,400,000 in 1847; in 1896 it had over £44,000,000.

During the 19th century the cheque supplemented, and partly displaced, coins and notes. When banks were forbidden to print notes, they gave credit by allowing the borrower to draw cheques on them up to the amount of the loan. The convenience of the cheque

was first realized in Britain and North America, but only recently have continental European banks encouraged the use of cheque books by their customers. In 1922 less than 1% of the money paid into British banks was in coin or notes. This development meant that less gold, silver, or notes was needed for general circulation, so more was available for addition to bank reserves, and as those reserves grew the banks could expand proportionately the amount of credit they dare safely allow.

**Modern Marketing** The growth of trade made necessary the development of more elaborate marketing methods. The weekly markets or periodical fairs lost their old importance; purchasers wanted to be able to buy at any time and not at infrequent fixed periods. Hence the machinery of selling had to be working every day, and the warehouse and retail store became important and general. Almost every commodity had its own peculiar marketing problem; but the central task was always the same, namely, how to bridge the gap between producer and consumer. And since the producers might be many in number and live scattered over a large area or areas, while the consumers might live in distant countries, the work of the middleman or series of middlemen was vitally necessary. Sometimes the middleman handled goods on behalf of the producer, sold them at the best price he could and was paid a commission for his services; in such cases the risk of loss through deterioration or unprofitable price remained on the shoulders of the producer. In some markets the middleman bought the goods himself, and then sold them, thus shouldering the risk of loss.

Sometimes the brokers, *i.e.*, those who bought or sold for others, organized the market in order to make their work more easy. They arranged for periodical auctions, in which their clients' goods were put up for sale at

stipulated times to the highest bidder; or better still, they opened a continuous market, open for some hours each day, in which they were willing to buy or sell a certain commodity on behalf of their patrons. Where markets became highly organized in this way, such as those for the sale of stocks and bonds, wheat, and cotton, the goods were never actually placed on the floor of the exchange; possibly they never came within a thousand miles of the place where they were dealt in. Instead, they were classified according to certain accepted grades or standards, and the buyer gave his order for so many units of a certain grade. But some commodities were not capable of being graded in this way; wool, for instance, differs in quality according to the farm, the kind of sheep, and the part of the sheep from which it comes, and so the buyer insists on seeing samples of it before he makes his purchase.

Behind the actual task of selling lay that of assembling small lots into big quantities, of warehousing the goods till delivery was taken by railroad, ship, or consumer, of grading and sorting, of packing and consigning to their destination, and of giving the purchaser credit till the time came for him to pay for them. All this work of putting the right kind of article in the place where it was wanted, at the time it was needed, required elaborate machinery for the collection of commodities from the producer, the provision of warehouses and stores from which the goods could be drawn as they were needed, the establishment of retail shops, the development of mail order businesses, the use of all forms of transportation, the publishing of advertisements, and the shouldering of risks by men who hoped that by skilfully reading the market prospects they would be able to sell their own or their clients' goods at a higher price than they had cost to purchase or produce.

*Eliminating the Middleman.* In almost every age the middleman has been attacked as a parasite, an unnecessary part of the economic machine. He has seemed to be a person who lives, not by producing anything, but by plundering producer and consumer alike. In the Middle Ages decrees against forestalling, and assizes fixing prices, were aimed at him. In 1552 an English law stated that "by the gredye and covetouse myndes . . . as also by the corrupt practyses of dyverse (wool-dealers) it manifestly appeareth that the prices of (wool) be wonderfullye and excedynglie enhaunsed and raysed, to the grete hurte, detrimente, and decaye of the realme", and an attempt was made to drive the dealer out of the wool trade. In later centuries the worth of the middleman was more generously recognized, but it was felt that commerce was carrying too many men on its back, and that the price they extorted for their service was excessive. In France, for instance, the number of persons engaged in distribution rose from less than a million to over two millions between 1866 and 1906, though the population grew only 3% during that period; and it was jestingly estimated that if the growth continued at this rate, in less than two centuries all the people of France would live by selling things to each other. Often a trader seemed to exploit a group of producers through his control of some vital form of equipment, such as a line of elevators, a supply of refrigerated cars, warehouses, or oil pipe lines. The 19th century therefore saw many attempts to eliminate the middleman, of which two must be mentioned.

The first was *integration*. Big manufacturers began to look round for ways of controlling their own supplies of fuel or raw materials, instead of buying them from a merchant or independent producer. Steel-makers acquired their own ore deposits, coal mines, coke ovens, ships, and railroad trucks; newspaper companies secured

their own timber areas and built their own newsprint works; makers of many kinds of goods sold them through their own warehouses or shops instead of leaving them for others to handle. This linking up of all processes and sources of supply is called integration; the various branches of purchase, production, and sale became integral parts of a big business unit that is trying to become self-supporting and independent of any outside producer or middleman.

The second attempt to eliminate the middleman and his charges was *co-operation* of consumers or of producers. Consumers' co-operation began in England a century ago, and after many failures a successful start was made at Rochdale, in Lancashire, in 1844. Here 28 flannel weavers met to consider how they could improve their wretched condition. They dreamed of a re-constructed world in which men would try to serve each other instead of make a profit by exploiting each other. But the way to this Utopia was long, and the first steps must be slow and cautious. So they began in a small way by eliminating the profit of the storekeeper. Each of them subscribed in tiny instalments, amounting at times to 2d. a week, £1 of share capital. With this they set up a little grocer's shop, from which they bought the scanty provisions their weekly wages would purchase. They sold to themselves at ordinary market prices, and paid a fixed rate of interest on their capital; then what was left, when all expenses and interest had been paid, went back to the pocket from which it had come, as a dividend on the amount of goods purchased. That dividend would normally have gone to the storekeeper as profit.

On this foundation the early co-operative societies succeeded in mobilizing the small savings of their members in order to supply themselves with a retail service run without profit. The movement grew so rapidly

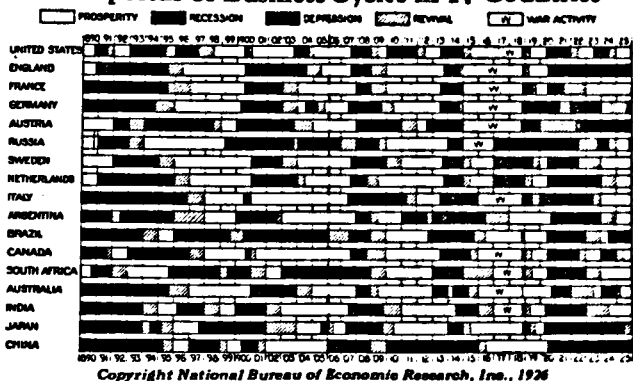
that in 1863 the retail societies combined to form a wholesale society, which would go out into the markets of the world and buy in bulk the goods the stores required. From co-operative wholesaling it was a natural step to manufacturing, insurance, banking, farming, and fishing. But to all these activities the same methods were applied; capital received a fixed rate of interest, and any surplus left over at the end of a year's banking, insurance, or manufacturing, went back to the pockets from which it had come. At every stage the customers were serving themselves with institutions set up by their own capital, and one does not make a profit out of oneself.

In 1923 over 4,600,000 members were enrolled in the co-operative societies of Great Britain and Ireland; there was a total capital of nearly \$500,000,000, and the goods handled were worth about \$1,200,000,000. Probably half the population of the British Isles drew some of its necessaries, comforts, and luxuries from this huge organisation, which in addition to its factories dotted all over the country had tea plantations in Ceylon, a palm oil factory in Sierra Leone, and 10,000 acres of grain land on the Canadian prairies. The wholesale society is probably Canada's largest single customer.

Of the other kind of co-operation, that of *producers*, we shall see something when we come to the story of Canadian marketing development.

**Booms and Depressions** Commercial progress has not been continuous or unbroken. It has been marked by a wavelike alternation of prosperity and depression. The period of prosperity is one of plentiful employment, increased investment, rising prices and wages, expanding production, full railroad cars and ship-holds, and a general atmosphere of optimism and enterprise. "All's well with the world".

### Conspectus of Business Cycles in 17 Countries



These conditions give place, rapidly or gradually, to hesitation and doubt in business circles, bankruptcies, unemployment, falling wages and prices, an unwillingness on the part of investors to subscribe to new ventures, idle ships, doleful speeches at shareholders' meetings, and a universal sense of stagnation and pessimism. The country seems to be "going to the dogs". Then after a while there dawns a more hopeful tone; men venture once more on bigger things, apathy is displaced by energy and prosperity comes round—only to be followed by another period of depression. So the circle, or the *business cycle* as we call it, goes round time after time. People sometimes talk of "normal conditions", but there is no such thing as normal conditions; conditions are always either getting better or getting worse.

These fluctuations are not peculiar to the modern world; we can trace them back to at least the days of Elizabeth. In 1622, for instance, there was a big depression in England, and one employer offered "to live by browne bread and water rather than that his

great number of poore people should want work if he had means to keep them in work". His neighbours were "inforced to pawne their clothes to keep their people in work". Similarly the American War of Independence staggered some English industries, and John Wesley in his travels in 1775 found that many people had "perished for want of bread; others I have seen walking up and down like shadows". But in modern times the depressions have been more serious and far-reaching in their effects, for, since nations have become more dependent on each other, a depression that started in one country nearly always spread suffering to the other lands with which the first victim had trading connections.

Economists have sought diligently for explanations of the business cycle, and almost every year sees the appearance of some new theory. No one theory is adequate, for a depression, like sickness, can be due to any one of a number of causes. When an automobile refuses to go, there may be a hundred different reasons, ranging from a broken bearing to an empty gasoline tank. So also it seems to be with the stoppage or slowing down of the economic machine. But two general causes stand out.

The first is the innate optimism of the business world and the desire to "get rich quick". When times are good, most men think they are going to get even better. If prices are going up, they will surely go still further, and will never fall again. So in time of prosperity men joyfully plant more wheat, erect more factories, instal more machines, produce more goods, float new companies, lay down more railroads, borrow more money for public works, buy land in Florida. They view the future through rosy spectacles, and forget that if a balloon is blown up too much it bursts. So confidence



becomes over-confidence, optimism becomes excessive, and caution is thrown to the winds.

Often this rush to share in the good things and big profits is associated with some new industry, some new field for investment, or some new demand. For instance, the first boom of the 19th century was partly caused by the "discovery" of South America. The South American countries threw off the Spanish yoke in about 1820, and thus became free to develop their resources as they thought best. The governments wanted money, and British capitalists set out eagerly to exploit the wealth of a continent where even domestic utensils were said to be made of silver and gold. Mining companies were floated, and merchants sent large quantities of goods, including such things as skates and bed warming-pans—to a tropical land. But this crazy boom collapsed in 1825 when some of the South American governments repudiated their debts, when the companies failed to pay the large dividends expected, and when the goods could not be sold. Ten years later the new road to wealth seemed to be investment in American banks and land; in the forties it was British railroads, in the fifties American railways, and in the sixties the new limited liability joint stock company seemed to be a wonderful device for making fortunes. In later years each boom was marked by concentration on some specially attractive new thing, such as the safety bicycle, a new oil field, rubber plantations, automobiles, railways in new countries, a new gold discovery, prairie land, city allotments, blocks of flats or office skyscrapers.

The second cause of depression is financial. When activity is growing more vigorous either on old or new lines, more bank credit is wanted, and those who are making the wheels go round more quickly or setting new wheels in motion go to the bank and seek further loans. The banking world is infected by the prevailing

optimism, and relaxes some of the caution with which it should inspect each new application for credit. As it lends it increases the purchasing power of the community, makes competition keener for the available supply of goods and labour, and so helps to push prices up. But this lifting of the price level makes people need more "loose change" in their pockets with which to pay the extra cents or "quarters" that have been added to the price of ordinary retailed goods. The additional supply of money in circulation probably has to be obtained by drawing on the bank's cash reserves. Hence, while these reserves are standing still or shrinking, the amount of bank loans is expanding, until at last the banker realises that he has gone too far. When this happens, his over-optimism gives place to a fit of over-pessimism, and he not merely refuses to lend more money but begins to call in his loans. Such action frightens his borrowers and puts them in a difficult position, for they may be able to repay their loans only by selling the goods they are holding "for a rise" at an actual loss; by doing this they break the level of prices, and a general scamper to turn goods into cash may bring all prices tumbling down.

Sometimes the tide may turn before the banks act; there may have been over-production of some goods, or the community may be unable or unwilling to go on paying ever-rising prices. Or some over-ambitious scheme may prove to be a failure, newly-established bogus companies may be discovered to be fraudulent, speculation in land, stock, or mining shares may collapse, a bad harvest may come, war may threaten, a big industrial dispute may begin, a government may repudiate its debts, or increase taxation, or withdraw from the borrowing and spending market, or a period of active construction of buildings, railroads, etc., may come to an end. But whatever the immediate cause

may be, the result is usually the same; all the graphs, except those showing unemployment and bankruptcy, turn downward and a period of depression ensues. The 19th century is full of instances of the play of these forces, and the cycle has gone its round about once in every ten years.

The early 19th century worshipped at the altar of Competition. Competition seemed to be the law of life, the spur to efficiency, the motive power of progress; it must not be impeded in any way by individuals, groups, or the state. The idea was an old one, and the attacks on forestallers in mediaeval times, and on the monopolies in Stuart days were partly inspired by it. English common law frowned on any association of men which aimed at "restraint of trade", as it was assumed that under free enterprise competition would lead to steady improvements in the methods and efficiency of production and sale, and to reasonably cheap goods for the consumer. Prices, wages, interest and profit rates, quality of goods, all were subject to the inexorable law of supply and demand, and every improvement in production or transportation would spread the competition over a wider field, so that for some commodities there would be a world market and a world price.

These easy assumptions were not always accepted in practice, and were rudely shaken as the 19th century progressed. Competition was often found to be wasteful in its methods and destructive in its results. It was wasteful when there were too many competitors, each with buildings and plant that might for long periods be working at less than full capacity, each with his manager, clerical staff, power plant, technical experts, etc., and each employing his army of commercial travellers or spending heavily on advertising in order to persuade

people to buy his goods instead of those of a rival. It was wasteful insofar as it meant many firms producing on a small scale instead of one or two producing with all the advantages of large-scale production and division of labour. Competition sometimes destroyed firms that were worth preserving, led to unfair and underhand practices, encouraged unscrupulous methods, and while it might kill the weaklings the strife among the survivors might still be so keen that there was no fair return to capital or labour at the end of it all.

*Limiting Competition.* Throughout the last half of the 19th century attempts were made either to limit the destructive effects of competition or to eliminate it altogether. Wage-earners were the first to make the attempt, and the trade unions they built up after 1850 were based on a principle that was adopted later by manufacturers and traders. This principle was that while wage-earners would compete with each other for jobs, they would not sell their labour at less than a certain minimum price. The union fixed a standard wage, below which no member was to accept employment; it fixed a standard length of working day, and no member was to work longer than that period except on payment of a higher rate of wage for overtime. Sometimes the union sought to limit the number of men competing for work by trying to persuade or force employers to engage only those who were members of the union, and it might try to limit the number of men coming into the union by demanding a preliminary period of apprenticeship and the payment of a high entrance fee. Competition still survived, and the good workman had a better chance of work and wages than the inefficient fellow; but below a certain level competition could not push the return to labour.

Manufacturers, traders, banks, and transportation agencies soon followed the example set by labour.

There were some severe periods of depression between 1870 and 1900, and during those hard times competition was of the cut-throat variety. In England there were two or more rival railroad companies running between the same towns in many parts of the country; these rivals fought bitterly to secure trade by offering faster trains, lower freights or fares, and cheap excursion tickets. In the United States at one time rate-cutting was so severe between Kansas City and Chicago that one line offered to carry passengers the journey of over 400 miles for 50 cents; while on the Australian coast a shipping company is said to have offered to take persons a two days' journey free if they would provide their own food and bed-clothes.

Rivals therefore began to admit that perhaps co-operation, rather than competition, was the life of trade. Once that admission had been made, joint action became possible. The action might be of three kinds.

(1) AGREEMENTS. Rivals agreed to submit to certain restrictions. A minimum price might be fixed, below which no competitor would sell his goods. A maximum output might be imposed on each producer, so that the market would not be glutted. Or the market might be divided into districts, and each producer or seller was given a monopoly of one zone, the others promising not to send their wares into any one else's area.

Agreements of this kind are found all over the world today. They began at least as far back as 1592, when the coal-dealers of Newcastle formed a "vend" to restrict output and maintain a minimum price for coal. In the late 18th century there were agreements and associations among British iron-masters and other big producers, but since 1870 agreements have been made on both sides the Atlantic for almost every kind of trade or service. Banks agreed to charge uniform rates for the services they rendered, railroad rivals fixed common

fares and freight rates, while conferences of shipping companies controlled passenger and cargo charges on most ocean routes. British and American tobacco interests divided up the world's smokers between them. In 1926 the steel manufacturers of France, Belgium, Germany, and Luxembourg agreed to a plan for price-fixing by which the former cut-throat competition would be ended, while the makers in each country were allotted a fixed percentage of the market.

(2) **KARTELLS.** Agreements between rivals had varying measures of success. The chief difficulty was that no one could be sure all the parties were keeping their word. It was difficult to detect offenders, and hard to bring them to punishment, for in some countries the law refused to recognize the agreement as legally binding since it was in restraint of trade. If therefore those who signed could not be trusted to sell according to their pledge, the remedy seemed to be to take the whole work of selling out of their hands and entrust it to some central selling bureau which would handle the goods of all the signatories.

Central selling bureaux were first, and most successfully, established in Germany, and were known as *kartells*. In 1906 there were nearly 400 of them at work, and by 1926 the number had grown to 2,000. They controlled the sale of most of the staple products, but the best known of them was the Westphalian Coal Kartell, established in 1893 to sell the product of 170 mines on one of the richest coalfields in Europe. These mines had tried in vain to maintain agreements, and were therefore at the mercy of the ironmasters and other coal-buyers for whose custom they fought. The kartell had to remedy this helpless position. A bureau was established at Essen, and all coal was sold through it. Each mine was allotted a fixed maximum output;

it handed over its coal to the kartell and received an initial payment of say \$2 a ton; then the kartell sold the coal at as high a price as it could get, and after paying administration charges distributed the net surplus among its members in proportion to their authorized maximum output.

(3) AMALGAMATIONS. The kartell succeeded in Germany, but was not copied much elsewhere. In the United States the movement away from competition went a stage further when rival producers amalgamated their works into one big corporation. These amalgamations brought production and the purchase of raw materials, as well as selling, under one control. Sometimes they were partly integrations, with every stage and process united under one management; but often they were "horizontal" amalgamations, in which a number of firms engaged in making the same kind of product joined hands. Sometimes one big aggressive firm swallowed up its weaker rivals; at other times union took place on friendly terms; but the result in reducing competition was the same.

Amalgamations were most numerous and important in North America, but took place in other countries as well. In Britain, the number of private banks was reduced from 37 in 1891 to 6 in 1914, and that of joint stock banks from 106 to 34; since 1918 the number has been further reduced, so that by 1920 nearly 90% of British bank deposits were controlled by five big banks, between which there was a working agreement for division of the market and the charge for services. In 1918 twenty-five makers of explosives amalgamated, and in 1921 the many British railway units were merged into four giant companies, the largest of which had a share capital of two billion dollars.

The generation that regarded competition as blessed believed that *laissez-faire*—leave things alone, let them go their own way—was the only sound principle of statesmanship. Economic life had been so tied up in the strings of Mercantilism that by sheer reaction men went to the other extreme and demanded that the state do nothing except defend the country and keep the peace. Be quiet, be still, let alone, do nothing, these were the slogans of the political and economic philosophy preached between 1750 and 1850. French thinkers asserted that there were natural laws to guide and govern man's actions just as there were natural laws to guide and govern the movement of the stars; therefore man-made law was an unnecessary interference with the natural scheme of things. Adam Smith reached the same conclusion from his belief that though each individual acted solely according to his own selfish interests and desires, he was "led by an invisible hand" to do things which were for the benefit of the whole community.

The state therefore *need* not try to regulate economic life. Nay, more, the state *should* not, for wise regulation was beyond its power or skill. As Pitt once said, "Consider the cases in which the intervention of the public powers has hindered the development of industry, and where the best intentions have produced the most disastrous effects. Commerce, industry, and exchange will always find their own level of themselves, and will only be disarranged by artificial measures which, coming to disturb their spontaneous operation, hinder their happy effects". Society was an automatic machine, working, and working for mankind's good, under the control of inexorable economic laws; the state could not understand those laws, and any attempt to do good would do harm. As Macaulay put it, "Rulers will best



promote the improvement of the nation by strictly confining themselves to their own legitimate duties, by leaving capital to find its most lucrative course, commodities their fair price, industry and intelligence their natural reward, idleness and folly their natural punishment, by maintaining peace, by defending property . . . and by observing strict economy in every department of the state".

This gospel of freedom from social control—"Anarchy plus a policeman" as Carlyle called it—was more widely accepted in Britain and North America than elsewhere, but, like all theories was not consistently or thoroughly applied. Parliament might sweep away old laws controlling this or that activity, might applaud speeches praising *laissez-faire*, and yet might then be driven by the revelation of some gross evil to pass a law against that evil. But the general tendency was to be quick in removing old controls and slow in setting up new ones. Bit by bit the fabric of Mercantilism was torn down after about 1780. Laws concerning apprenticeship, wages regulation, size and quality of goods, rates of interest on loans, etc., were repealed. The warning, *Caveat emptor!*—Let the buyer beware and look after himself!—was put in their place, whether the buyer was purchasing the use of borrowed money or buying flour that contained plaster of paris, tea that was coloured with Prussian blue, sugar that was mixed with sand, or milk that sold at three different prices according to the amount of chalk and water it contained.

Gradually the sheer pressure of facts compelled the state to abandon the attitude of "do-nothingism". It was found that when things were left to go their own way they sometimes went in undesirable paths; it was realized that equal freedom was of little value when men had not equal ability, equal strength, or equal resources, and that the strong might sometimes be

unscrupulous as well. So the state began to take up in earnest the task of regulating the wealth-seeking activities of its subjects; it tried to protect the weak, to stamp out fraudulent practices, to help those in distress, and to prevent men from riding roughshod over the welfare of others in their quest for a fortune. Factory Acts were passed to protect wage-earners from being employed at too early an age, from being kept at their task for excessive hours or in unhealthy and unsafe surroundings, and from being paid less than a living wage. Meanwhile consumers were protected from the more gross forms of adulteration and deceit by the passage of pure food acts, the supervision of meat-works or markets, and the inspection of scales, weights, and measures.

Free trade was part of the reaction against the **Free Trade** Mercantilist attempt to steer industry and commerce in a certain direction. The free trader questioned the skill of the steersman and the value of the course he was pursuing. If the production of wealth was the aim of economic effort, then it was surely best for each nation and for the world as a whole that each area should concentrate on the production of those commodities for which its natural resources, climate, position, and people were best fitted. In this way the greatest possible amount of goods would be produced, and if nations then freely exchanged these wares, the quantity each nation received would be greater than if each area tried to do things for which it was not suited. Cheapness and plenty would rule, and as national groups exchanged their products they would realise that they were mutually dependent, and so would live at peace with each other.

What stood in the way of reaching this happy condition? Prohibitions on imports, high protective tariffs, and all the machinery of Mercantilism. Well, then,

that machinery must be dismantled, and trade left free to flow inward or outward. This demand became increasingly popular among British merchants and manufacturers during the early 19th century; these men were becoming so efficient in their new equipment and methods that they had little to fear from foreign rivals, especially if the tariff was reduced to allow foodstuffs for their workpeople and raw materials for their workshops to come into the country at a lower price. Further, if Britain set the fashion by reducing its tariff other countries might follow this lead, and so British wares would get more easily into foreign markets.

Unfortunately for the free trader, the Napoleonic War had caused every country to raise its tariff in order to get more revenue. Customs duties were made more numerous, heavier excise duties were levied on home products, and license fees had to be paid at almost every turn. By 1815 there were 1,500 items on the British customs list; in the words of Sydney Smith, there were "taxes upon every article which enters the mouth, or covers the back or is placed under the foot; taxes upon everything which it is pleasant to see, hear, feel, smell, or taste . . . on everything on earth and the waters under the earth, on everything which comes from abroad or is grown at home; on the sauce which pampers man's appetite and the drug that restores him to health; on the ermine which decorates the judge and the rope which hangs the criminal; on the poor man's salt and the rich man's spice; on the brass nails of the coffin and the ribands of the bride".

The British tariff was by this time more a machine to raise revenue than a wall to protect industry. The Corn Laws were still protective; but a land that was galloping ahead industrially and commercially needed no protection. From 1820 therefore Britain moved

towards free trade. The Navigation Laws were modified and in 1854 swept away. Prohibitions on imports were wiped out, and customs duties were reduced in number and size. In 1815 there had been 1,500 items on the tariff; in 1860 there were only 48, and in 1874 only 17. The Corn Laws had gone in 1846.

The attitude towards colonies changed as free trade became the accepted faith. The unhappy experience with the New England colonies in 1775-83 had made many Britons feel that a colonial empire was of little use. All the colonies would break away when they felt strong enough; like ripe apples, they would drop off the tree. Well, let them! At least they would then have to defend themselves and thus cease to be a drain on the British exchequer, and they would still have to come to England for their capital and manufactured goods, because there was nowhere else for them to go. Let them therefore have self-government, let them manage their own commercial policy, let them trade wherever they wanted. "Liberate your colonies", said Bentham, for your own benefit as well as theirs. A country that was becoming workshop of the world need not bother about a few colonists. "Any political party", said one onlooker, "would rather lose a colony than a division in the House of Commons."

Britain therefore abandoned any claim to preferential treatment in colonial markets, and deprived the colonies of the preferences they had enjoyed in the British market. Colonial produce could be exported anywhere in any ships; and the colony could impose duties on goods from the mother country. What this meant in the case of Canada we shall see later.

In moving towards free trade Britain had been inspired by a mixture of confidence and fear; confidence in her capacity to stand against foreign competition at home and to capture more of the foreign market with

her cheap machine-made wares; fear that other countries would raise their tariff walls higher against her unless she set a good example by lowering hers. Many free traders believed that, in the words of Cobden, "if you (England) abolish the Corn Laws honestly and adopt free trade in all its simplicity, there will not be a tariff in Europe that will not be changed in less than five years to follow your example". To some extent this forecast was correct, for up to the seventies there was a slow but sure trend towards free trade. In Germany some 36 states formed the *Zollverein* (Customs Union), which set up free trade between the various units, and helped the internal development of the country. In the United States there had been an upward movement to the high "tariff of abominations" of 1828, but later the trend was downward. Various countries made trade treaties with each other, by which each granted the other lower duties on specified commodities, and this network of treaties took Europe a long way towards free trade.

After about 1870 the tide turned, and there was a movement towards protection in most countries. The change in direction was due to many causes.

(1) *The Growth of New Nations and of National Sentiment.* By 1871 new nations were in the field, and they were determined that economic strength should accompany political strength. Italy became free and united in 1871, and the German Empire was set up in the same year. The American Civil War decided that the United States should be united, and gave the country a great impetus to exploit its mineral and other resources. Russia freed its serfs, and began to develop its sources of wealth. Japan, forced in 1854 to open its doors to intercourse with the outside world, set its teeth and determined to make itself a modern power in every way.

Canada and Australia began to talk about national policies.

In each of these countries it was felt that no self-respecting nation could afford to rely on the "workshop of the world" for its industrial products. Britain had no monopoly of iron and coal; let the new countries do what Britain had done, and develop a variety of occupations that would make them self-sufficing, wealthy, and strong.

(2) *The Need for Revenue.* After 1870 or 1880 governments began to spend much more money than formerly, for three reasons: (a) The many wars of the mid-nineteenth century loaded nations with debt and swollen interest bills. (b) A race in armaments began, both on land and sea; countries built up bigger armies, equipped them with more costly weapons, and strove to outdo each other in the size and strength of their navies. (c) Governments set up elaborate schemes of state education, insurance of workmen, public health, old age pensions and other social reforms. So with past and future wars calling for their tens of millions and with social reforms calling for their millions, more money must be obtained for the public purse. Further, some federal governments, such as those at Berlin, Washington, Ottawa, and Melbourne, could levy little taxation except customs and excise duties, so as their expenses grew they had to increase the tariff.

(3) *Economic Arguments.* Once countries determined to encourage manufactures instead of being merely producers of foodstuffs and other primary products, there was no lack of attractive economic arguments in favour of protection. The first was the *infant industry* argument. New industries needed protection against the competition of adult rivals. The adults would resent the appearance of the newcomer, and their

tariff wall was therefore needed round the nursery; but, when the baby had grown to manhood, that wall, like the nursery, would no longer be needed—at any rate for that baby. Protection was thus to be a temporary measure to tide an industry over the period of initial weakness and inexperience.

The second was the *handicap* argument. Even when industries have grown to full size, they may be at a disadvantage in international competition because their costs are heavier than those of their rivals. Land may be dearer or less fertile, climate may be harsh and fickle, taxation heavier, and labour more costly. To equalize conditions therefore, a nation must permanently handicap the produce of more favoured lands, just as men are handicapped in a race. The tariff is the handicap. This argument has been especially popular in some new countries, such as North America and Australia. Here it is urged that the tariff has not merely built up industries, but that it has also established a high standard of living for wage-earners, with good wages, short hours, and healthy working conditions. This whole standard would be endangered if free trade allowed home products to be pitted against those of Europeans who toil long hours for a dollar or two a day, or of Orientals who are said to exist on a few handfuls of rice. Thus a tariff is a necessary permanent part of national defence.

The above arguments, along with many others, were brought into prominence after 1870. In the agricultural field, thanks to improved land and sea transport, the cheap foodstuffs of the Americas, Australasia, and Russia flooded the European market and spread ruin among the old world farmers. In the industrial field the United States, Germany, Italy, France and Russia were building up manufactures, partly to free themselves from dependence on Britain, but later in order to challenge British supremacy in the outside markets. After

1884 Japan embarked on a manufacturing career, and eventually exported factory products, while more recently India has, behind a slowly-rising tariff, fostered the production of cotton goods, iron and steel, and other important commodities.

The chief means of defence used in this international economic struggle was the tariff, and after 1870 nearly every country except Britain began to raise the tariff wall higher and higher. But the tariff was only one part of a wider policy. Sometimes bounties were given on goods produced or exported; departments of commerce, consular systems, technical schools and research laboratories were set up; subsidies were paid to help native shipping companies, and the coastal trade was kept closed to foreign vessels; railway rates were in places lowered to help certain industries, and restrictions were placed on the immigration of undesirable aliens who might lower the standard of living of the population if they were admitted.

In this general movement towards protection most countries took part except Great Britain. The British colonies built tariffs, while the new states which were set up in Europe after the war of 1914-18 surrounded themselves with a protective ring-fence as one of their first acts. The British colonies at first subjected British and foreign goods to the same tariff rates, but after 1894 they began to grant preferences, levying lower duties on goods coming from Britain than on those from elsewhere. Sometimes they put goods from other parts of the Empire on the same favoured footing.

Britain stuck to free trade until the war. She wanted cheap supplies of food and raw materials, and the manufacturing and commercial interests so dominated the political thought of the country that the ruin brought on her farmers in the eighties by the cheap produce from



the new world left her cold and unconcerned. Agriculture did not matter, so long as cheap imports meant low wages, low costs of living and production, and booming exports of town products. Even the industrial competition from Germany and the United States after 1880 failed to move her from the policy adopted in the earlier part of the century. But if she imposed no duties on food or raw materials, she could grant no preferences to the Dominions in return for their preference on British goods, since the Dominions' exports to her were nearly all food and raw materials. During the war, however, she imposed some new duties, partly for revenue and partly for protection; and when she thus departed from the policy pursued for three-quarters of a century, she was able to grant preference to some goods from the Dominions. But the country is far from being fully committed to a general policy of protection, and preference is still unpopular.

**Supplementary Reading.**—The literature on modern economic history is very large, and only a selection can be mentioned here. Day, part IV; Waters, Book II; Usher, chaps 12-20; Stephenson, section 4; Ashley, chaps 6-8; Bland, Tawney and Brown, part III; Knowles, "Industrial and Commercial Revolutions"; Heaton, "Modern Economic History", chaps 1-13 (gives more detailed but similar treatment of subject), Cressy, "Outline of Industrial History", Kirkaldy, "British Shipping"; Gras, "History of Agriculture in Europe and America", chaps. 6-9, and "Introduction to Economic History." These books are all surveys of the period and in them will be found references to more specialized works. The student might with advantage supplement Chapter VI. by reading relevant chapters in some work on modern economic theory or practice, such as Gide, "Political Economy", Clay, "Economics for the General Reader", or Edie, "Economics: Principles and Problems".

## CHAPTER VII.

### THE COMMERCIAL DEVELOPMENT OF THE UNITED STATES

**I**N 1790 the North American continent housed only about 4,000,000 white people, but today it holds over 100,000,000. Its real growth has therefore been compressed into the last 150 years, a period when the old world was developing the new methods described in the last two chapters. These methods influenced North America, for capital and population came largely from an old world that was doing things in a new way. Consequently much that has been said about the rise of large-scale production, division of labour, banking, business cycles, etc., is in general as true of North America as it is of Europe.

**The Economics of New Countries** But the new world was not merely a copy of the old, and its development had many novel features. In the first place it was a *new* world, and needed population and capital. Much of its story, therefore, is that of immigration of men and money, or it records the flow of people to the frontiers of settlement, the clearing of forest and the breaking of prairie. Old countries had no immigration problem, and their land was all occupied. They could enclose and bring into cultivation patches of swamp or moorland here and there, but they were chiefly engaged in working more intensively areas on which their ancestors had lived for centuries. The new world, on the other hand, spread its folk over a wider and wider area, pushing the edge of settlement farther back and bringing new regions into use. The limits of this expansion were not reached in the United States

until about 1890, and have probably not yet been reached in Canada.

In the second place it was an *unknown* world, and so its development was aided by frequent discoveries of fertile areas or mineral deposits. California, British Columbia, Northern Ontario, and Australia all received a big impetus from the discovery of gold, while rural settlement spread further afield when explorers came back and reported the existence of hitherto unknown good lands. At the same time investigators and experimenters revealed new uses for resources that seemed to have little value, *e.g.*, that waterfalls could be harnessed to produce electricity, and that wood could be made into paper.

In the third place, new countries were *unbalanced*. Land was plentiful, but labour and capital were scarce. When things are plentiful we tend to be prodigal and extravagant in our use of them, and things that are apparently useless we destroy ruthlessly; when things are scarce we economize carefully. To the early settler on the Atlantic coast or St. Lawrence river, wood was a drug on the market, for he could not sell all the timber or even get it to market; so he destroyed vast areas of woodland. Land, too, was plentiful, and its fertility great; so he squandered its richness by continuous cropping, and when a patch was exhausted he moved on to another one. He was a land "miner", taking riches out of the soil almost as much as if he was extracting coal or gold. Or if he turned to lumbering he cut down trees, but planted none in their place, and probably wasted more wood than he used. So we find in every part of North America—the cotton fields, the farm lands; and the forests—a policy of "Exhaust and move on!" Only when there was nowhere to which one could move on did the exploiters of natural wealth begin to take steps to restore or conserve that wealth.

With prodigal use of land went careful use of labour and capital. The labour must be made to go as far as possible by the devising of labour-saving machinery and appliances. Machinery in Europe was "labour-saving", and was planned to get as many units of product as possible for each unit of labour. But labour was abundant in the old world when compared with the new, and wages were low; therefore the need for highly productive machinery was much greater west of the Atlantic than east. This was true of industry as well as of agriculture; manufactures in a new land could grow only if high wages were counter-balanced by the use of machines that would mine, make, lift, or haul in very large quantities under the care of a small labour force.

But in course of time a new country ceases to be new. At first it tends to be chiefly a producer of primary products, which it exports to feed the factories or mouths of the old world. Old countries encourage it in this work, send out capital and foster emigration. But this very encouragement helps the country to grow up, to develop means of communication, to build up a large population that provides a good home market, and to begin saving in order to provide its own capital. Then the country begins to ask why should it remain lumber-jack, fisherman, farmer, or shepherd for other nations? It begins to resent the label "Made in England" or "Made in Germany" on the goods it buys. Why not "Made in Canada", why not a locally-produced article? Its emerging national pride is offended by the thought that it lets others do tasks that it could and should do for itself. So all new countries sooner or later turn their efforts towards making themselves more self-supplying, and encourage the rise of their own manufactures, their own financial institutions, and their own shipping.

The North American countries were *big* as well as new. This made their transportation problem much more

difficult than in smaller lands, where a few hours' rail journey brought one to the sea or the frontier; it gave them a great variety of climatic zones and natural resources, a variety so great in the case of the United States that the country could produce for itself most of the commodities it needed; and it gave a market so large, once the country had become fairly well settled, that production for home needs alone could be carried on with all the economies of large-scale organization and equipment. Finally, in a large country, the interests of people living in different zones tended to be different and even hostile. Farmers on the prairies wanted free trade in agricultural equipment, but would demand a tariff against imported foodstuffs; the manufacturers of that equipment wanted a high tariff to protect them, but might desire free trade in the foodstuffs consumed by their own workpeople. In the United States it was difficult to get the manufacturers of the East, the farmers of the West, and the cotton planters of the South to agree on any issue. Thus economic interests divided the large political units into a number of regional units, and the politics of North America have been largely concerned, and confused, with the attempt to reconcile the interests of different areas.

**The United States from 1783 to 1815** The United States in 1783 was essentially a rural nation. The population lived chiefly in clearings made, with the axe, out of the forest, for the towns were only small shipping and commercial centres. In the south, rice, indigo and tobacco were the staple products; Washington was a large grower and exporter of tobacco; but cotton had not yet become important. Elsewhere corn, wheat, dairy products and cattle-raising received attention, with a little lumbering in places and fishing on the coast. In the south the big

slave plantation predominated, in the north the small farm; but, on both, farming methods and equipment were primitive. The wooden plough was in use, threshing was done with the flail, and land was given no fertilizer, but was cropped till it was exhausted. The country-dweller was almost self-sufficing, and unless he produced some staple marketable commodity he bought and sold little. Communication, except by river, was difficult in an age devoid of passable roads, but was easier when the snow came and the sleigh could be put into use. The general store of the village or township was the chief link with the outside world, for it collected the surplus produce of the district and gave in exchange the tea, West Indian sugar and spirits, and local or British manufactured wares that the settlers needed to supplement their larder or wardrobe.

*Shipbuilding.* The exports of the country were almost entirely the primary products of fishery, farm, forest, or plantation. At one point the commercial equipment was strong, namely, shipbuilding. Abundant supplies of good timber were found in the northern states; the Navigation Laws gave colonial ships the same privileges as they conferred on British vessels, and so the New England colonists at an early date turned to shipbuilding. Boston, Salem, and other places became famous shipyards, and in the four years before the Revolution more than 2,000 ships were built on the Atlantic coast. Many vessels remained American property, and laid the foundation of the country's maritime strength during the clipper period; but large numbers were sold to Britain, and it was claimed that in 1770 one-third of Britain's tonnage had been built in North America.

*The Cotton Gin.* The economic outlook in 1783 was very dismal, and most onlookers expected that the new nation would soon be economically and politically ship-

wrecked. But within ten years two grand opportunities came, which gave the country a great and lasting impetus. The first was the invention of a machine to remove the seeds embedded in the cotton when it was picked from the plant. Formerly these seeds had been picked out by hand—a slow process, for few slaves could clean more than five or six lb. a day. In 1793 Eli Whitney invented the cotton gin (or engine); this simple machine consisted of a grating and a revolving drum covered with spikes or hooks. The cotton was thrown on the grating and the drum was turned underneath it, so close that the spikes just came through the grating and caught the cotton fibres. The cotton was thus pulled through, but the seeds were too large to pass through. When the gin was turned by hand it cleaned 50 to 60 lb. of cotton a day; driven by power, it did at least six times that amount.

This invention removed the chief obstacle to cotton cultivation, and helped to give new life and almost unlimited opportunities for expansion in the south. Lancashire's appetite for cotton was unbounded, and could now be met. In 1790 only about 9,000 bales had been grown, cultivation was languishing, and many southerners were willing to see cotton and slavery disappear. But by 1800 the output was 180,000 bales; by 1833 it was 1,300,000, and planters now regarded slavery as a vital necessity. In 1860 cotton comprised over half the total exports of the country, and the cotton manufacturers of the world were dependent on America for their raw material.

*War in Europe.* While Whitney's gin awoke the south, the European wars of 1793-1815 awoke the north. Then, as on many subsequent occasions, North America benefited by the quarrels and wars of Europe. In the 19th century belligerents turned to her for foodstuffs

and raw materials; in the 20th century they came for manufactured articles as well. When Europe drew her workers into the armies or commandeered her merchantmen for naval service after 1793, she welcomed American ships and cargoes. When the war was being most fiercely waged the American trade became most active; when hostilities lulled or a temporary peace "broke out" the trade became quiet.

After Trafalgar (1805) England and France fought each other with trade weapons; Napoleon tried to forbid any part of the continent from buying British goods, and Britain replied by ordering all neutral vessels to come into British ports before proceeding to a continental terminus. Americans were thus hit from both sides. If ships went into a British port, they might have to pay heavy duties, they might be seized, or the press-gang might snatch their sailors. If they then went to the continent they might be denied admission because they came from Britain, and if they tried to evade the British demand they might be seized by a British man-of-war. Thus blows aimed by the belligerents at each other often hit the neutral, and friction between London and Washington finally led, in part, to the War of 1812.

The European turmoil had three chief effects on the United States. Shipping and shipbuilding received a great stimulus; the call for foodstuffs encouraged settlement beyond the eastern mountain barrier; the dispute with England cut off the normal supply of manufactured articles and led America to establish more factories and workshops. Had the war lasted longer, the United States might rapidly have become a big manufacturing nation. Thus 1815 found the country vastly stronger than it was in 1789, and the lines for future development were already apparent.



**The United States from 1815 to 1860** There were four great economic developments in the United States between Waterloo and the Civil War—the westward movement, the improvement in means of transportation, the expansion of grain, cattle, and cotton production, and the development of manufactures. All were helped by the flow of capital and population from Europe. British money played a large part in building up the railroads and the banking system, and only gradually were Americans able to save enough to finance the larger enterprises. The flow of labour from abroad rose from a tiny annual trickle of less than 10,000 immigrants before 1825 to a wide stream of over 400,000 thirty years later. The stream was at first almost entirely from the United Kingdom, and in the fifties half the new-comers came from that country; but after the revolutions, wars, and general political upheavals of 1848 in Europe, many Germans began to leave the Fatherland in search of economic and political freedom. By 1855 the German flow equalled that from Britain and Ireland.

*The Westward Movement.* The westward movement of population had begun even before 1783. Fur-traders were out in the north-west, competing with rivals from Montreal or Hudson Bay. The trapper or trader was gradually followed by the settler. In 1770 it was estimated that there were only thirty families settled beyond the Alleghany mountains; but by 1790 there were probably a quarter of a million people at least, and the movement was described as having "exceeded the bounds of credibility". Wagon roads were being made westward and north-westward through the eastern highlands, and one of the first big treks of modern colonization began.

The wanderers were a motley collection. Some were weary of the turmoil and bitterness of the Revolutionary

war; some were disbanded soldiers; some came from Ireland; some were New Englanders in search of more fertile areas than those on which they had lived. But all heard the call that for a century was to ring in the ears of North America, the call "Go west!" So, either in small family groups, or in big hordes, they set out, their goods packed in a covered wagon hauled by oxen. They "overlanded" till they reached their new home, or until they came to the upper waters of the Ohio. Pittsburgh was a popular terminus on the northern trail, and here the migrants bought or made a big flat-bottomed boat, roofed over and known as an ark. On it the family, with all its good and livestock, floated downstream till it reached its destination or else some landing place from which the land journey had to be resumed.

This westward flow continued in increasing volume nearly all through the 19th century. The completion of roads and of the Erie Canal (1825) led to the spread of population up to the shores of the Lakes; then the region west of the Mississippi was invaded, and by 1847 settlers were wrestling with the arid Salt Lake basin or pushing up through Oregon to the international boundary drawn in the previous year. Then, in 1848, gold was found in California, and the Pacific coast awoke. From every part of the world men raced, as fast as clipper, wagon, horse, or foot could take them, to the diggings. Some crossed the Rockies, some faced fever on the Panama Isthmus, others made the long journey round Cape Horn. In the first year 50,000 men entered this land of promise; in twelve years gold worth \$600,000,000 was obtained, and, when the rush ended, many who had gone to win a fortune remained to work a farm.

*Means of Communication.* As population and production spread over a wider area, the need for better means of communication grew more and more acute. Tracks

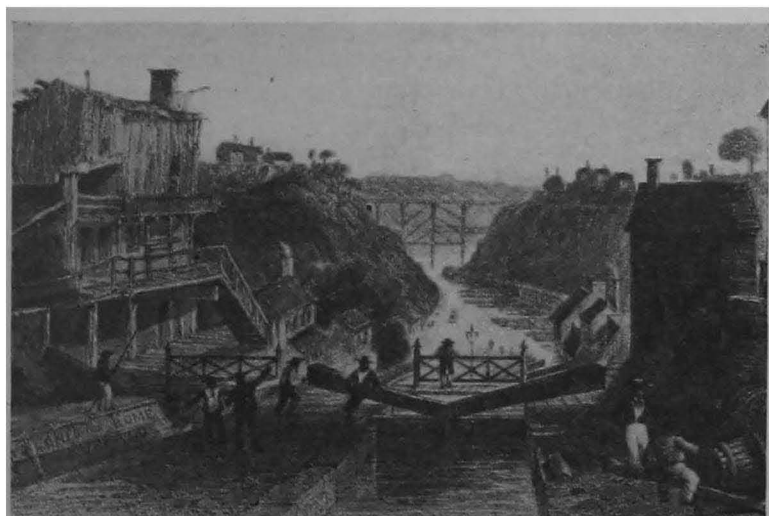
had to be made through the thick eastern forests, and the tracks broadened into highways. Turnpike companies were formed to make some of the early roads, but their tolls were so heavy that gradually road-making became a government duty, and some of the money received from the sale of land was ear-marked for road construction.

Like Canada, the United States had many waterways, but they were far from perfect natural means of communication. The streams running into the Atlantic were broken by rapids or waterfalls in their upper reaches, and the Mississippi flowed so rapidly that while downstream traffic was quick and cheap, upstream travelling was almost impossible, except for small boats fitted with sails or propelled by poles. Consequently Mississippi trade all went one way. Primary products, and even slaves, were loaded on to "flats", *i.e.*, rafts or flat-bottomed boats, and sent south; but, in the words of an early Kentucky settler (1790) "we find it impracticable to remount the rivers without infinite labour". Goods and boat were therefore sold together, and the boatmen then made their way back home by land through a virtual wilderness. Those who disliked this kind of return journey sometimes took ship at New Orleans for the West Indies, then sailed for a mainland port, and crossed the mountains to their home, after an absence of four to six months.

The solution of the Mississippi problem was the steamboat, and when Fulton in 1807 took his little steamer from New York to Albany, a distance of 150 miles, in 32 hours the problem was solved. In 1815 a steamer went up from New Orleans to Pittsburgh, and soon a journey that had taken three months by sail or pole was being completed in about a week. By 1850 hundreds of steamboats were plying on the rivers and

lakes, and the inland steam tonnage equalled the total steam tonnage of Great Britain in the fifties.

*Canals.* Meanwhile the natural waterways were being linked up by canals. The most ambitious project was the Erie Canal, completed in 1825. It ran from Buffalo eastward through Rochester and Syracuse, found an easy route through the Appalachians, and descended the Mohawk Valley to Albany, where it met the Hudson.



**The Erie Canal, about 1840.**

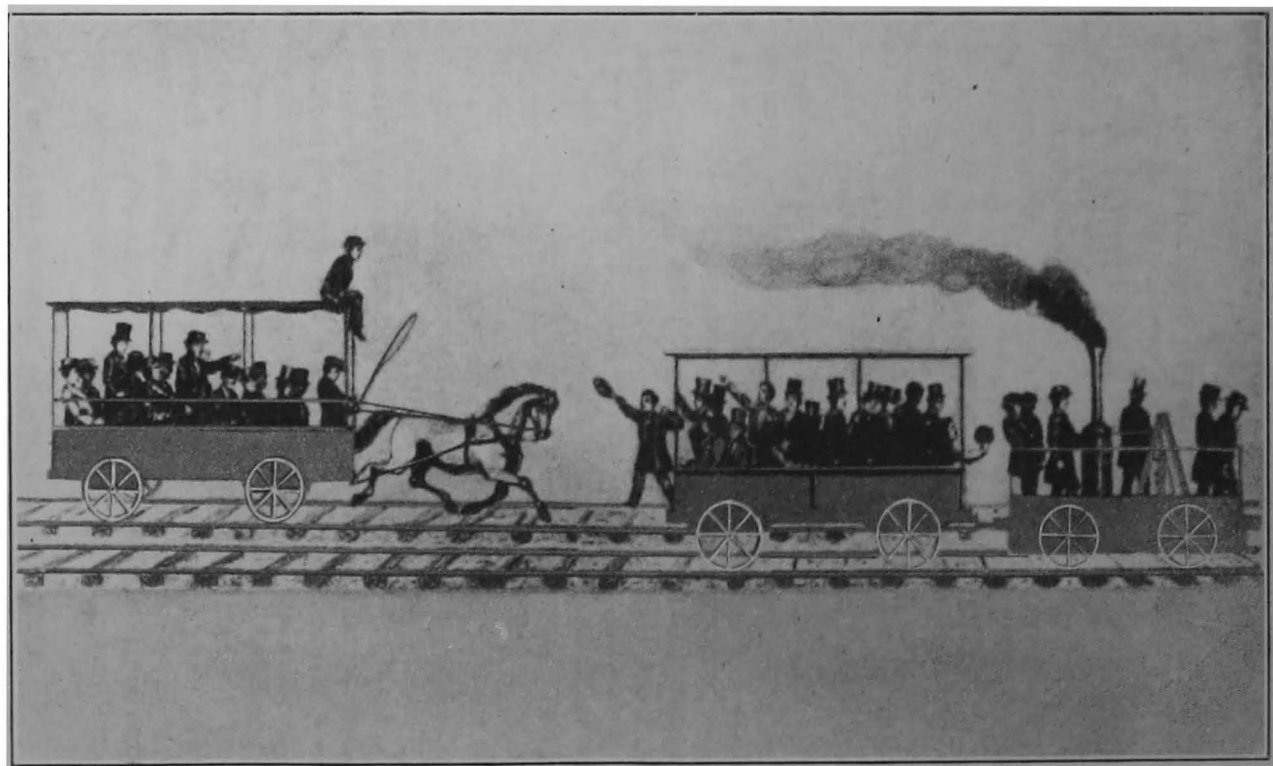
Note width of lock, and the timber rafts in the distance.

It thus gave cheap and easy communication between the Atlantic ports and industrial centres and the growing population south of the Lakes. Other canals connected Lakes Champlain and Ontario with the Erie route, linked Lake Erie with the Ohio, and Lake Michigan with the Mississippi; and in 1855 a canal at the Sault Ste. Marie gave water communication with Lake Superior.

The steamboat and the canal revolutionized settlement and trade; the Erie Canal reduced the freight on grain between Buffalo and Albany from \$100 to \$15 per ton, and made possible the sale of meat from the northwest in New York. Settlers could travel by canal barge much of the way to their new homes. But still more was wanted; the canals could not reach all parts of the country, they could not link up the Mississippi and the east, they did not permit quick traffic or large boats for fear of washing away the banks, and they were frozen in winter. Some better links were needed if traffic was to flow east and west instead of down the big river.

*Railroads.* Railroads provided those links. The first was the Baltimore and Ohio, begun in 1828; but most of the early lines were short, and in 1850 no railroad ran through from the coast to the central states. But between 1850 and 1860 the country was railroad-mad, and the 3,000 miles of track in 1840 had grown to 30,000 by 1860. Chicago, St. Louis, and other inland centres were connected with the Atlantic seaboard, pioneer lines opened new areas for settlement, and the produce of the heart of the country found its outlet eastward instead of southward. Governments granted land and money to aid the railroad builders, and by 1860 the country could take advantage of an excellent and far-reaching network of rail, road, river, and canal.

Thanks to this network the rural frontier was pushed steadily further west, and the surplus grain and meat of the outlying farmer could be brought to market. Agricultural methods improved somewhat, fertilisers were used in places to replenish exhausted soil, and McCormick's reaper (1831) helped the farmer to cut grain with only a small amount of labour. But he was still a "miner", especially on the newly-settled lands. As



A trial of speed on the Baltimore & Ohio Railroad, 1830, between Peter Cooper's locomotive, Tom Thumb and one of Stockton & Stokes' Horse-cars.

yet little wheat was exported; freights on land and sea were still too high, and the big flood of American produce did not descend on the European market until the prairie states were occupied and cheap rail and ocean freights came in the seventies.

Down south, cotton was king; sugar, rice, and tobacco were still produced, but most of the two million negroes in the south in 1850 were on the cotton plantations. As old cotton lands were exhausted the planter moved to new areas, and so the cotton belt moved its frontier westward, and spread along the Lower Mississippi, until it had an area of nearly 500,000 square miles. The planter wanted to extend cotton and slavery still further, but the north would not agree, and the friction on this issue led, in part, to the Civil War.

The north quickly recovered from the effects of the war, and resumed its advance at an even more rapid rate than before. But the south languished, struggled with poverty and the fruits of defeat, faced a liberated race that did not know what to do with its new-found freedom, and saw armies of its white folks go north or west.

*Transcontinental Railroads.* The westward flow after the Civil War was helped by two things. The first was the transcontinental railroad. Even in the thirties there were men who dreamed of an iron track from Atlantic to Pacific, but not till 1869 was it possible for the iron horse to run from ocean to ocean. Other transcontinental tracks were laid later, aided by big financiers, land grants, and public funds. New routes north and south linked up those running east and west, and by 1900 the country had nearly 200,000 miles of track. In places, especially west of Chicago, more lines were built than the country required at the time; competition was

severe, and the weakest went to the wall. Out of this welter of competition grew the recognition of the need for amalgamation, or for agreement on uniform traffic rates. After 1870, therefore, companies combined, small lines were absorbed by big ones, and local lines were fused into long trunk and radial systems. The Pennsylvania Railroad Co. has absorbed over 700 different concerns, and the New York Central has swallowed up over 600 separate lines.

*Free Land.* The second important factor in the development of the west was the introduction of the free land-grant system in 1862. Prior to this date land had been sold for at least a generation at \$1.25 an acre. But advocates of free land were active and loud-spoken, and in 1862 Congress passed the Homestead Act, by which any citizen or applicant for citizenship who was the head of a family could take up a quarter-section (160 acres) of public land, settle thereon, and secure title after five years' residence on payment of a small fee.

This offer was a powerful magnet to Americans in the eastern states and to landless Europeans. The railroads added their inducement by selling at low prices the lands given them by the government, and brought the cheap or free land within easy reach of the eastern and central cities. From home and abroad therefore the settlers came in droves. Between 1867 and 1874, 170,000 blocks of land were claimed, and homesteads were gradually sprinkled over the states west of the big river and up to the Canadian frontier. There was much suffering, much failure, and much fraud in the occupation of the new lands, and many areas proved unfit for settlement; but the net result was a big addition to the country's productive capacity. Eventually by about 1890, all the public land that was worth occupation had been taken up, and the free land era ended.



*Food Exports.* While the western farmer produced a big surplus of foodstuffs, the railroads offered cheap transportation to the Atlantic coast, and the new steamer and the old sailing ship were fighting for cargo by offering very low freights. When therefore a series of bad seasons descended on Europe in the seventies, American grain, dairy, and meat products gained a strong hold on the overseas market, and kept it. Between 1874 and 1881 exports of foodstuffs more than doubled, and American meat, pork, butter, cheese and bacon became important items in John Bull's larder. After 1900, however, this tide of food exports ebbed; the United States had reached the end of its period of expanding land occupation, the fertility of the soil was being reduced by continuous concentration on one crop, and the growing industrial population was consuming a larger portion of the farm output. Hence exports of crop and animal products declined after 1900. The war changed the position for a time, and high prices induced the farmers to make heroic efforts to produce an exportable surplus; but with peace and the lower prices of 1920 the old tendency reasserted itself, and the United States is ceasing to be an important factor in the world markets for grain and animal products.

*Recovery of the South.* Meanwhile the cotton states painfully worked out a new social system. The negroes had liberty, but that was about all they did possess; so they could not buy land, and showed little desire to work hard for wages. The only possible solution seemed to be "share farming". Plantations were cut up into small holdings, and the owner supplied the seed, plant, fertiliser, etc. The negro was allotted one of these holdings, and worked it, subject to close supervision by his landlord. The crop was then shared out between landlord and tenant, on some pre-arranged basis; possibly half or two-thirds of the pick went to the landlord,

the remainder to the tenant. Some negroes were so successful that they were eventually able to buy their land or become cash tenants, and when the brand of slavery had been removed from cotton growing more white folk took up cotton production.

After 1880 prosperity came back to the south, and between that date and 1923 the cotton output rose from less than six million bales to over ten million. But two factors were changing the outlook of the south. (1) The spread of the boll weevil pest threatened the cotton crop. (2) Southerners realised that they could produce goods for a market that was nearer than Lancashire; their climate allowed them to make the south a vast orchard and vegetable garden, as well as a tobacco field and cotton plantation. Thanks to improved storage and refrigeration facilities, they could produce and market sub-tropical fruits such as oranges, lemons, grape fruit, etc., and also the homely vegetables that the colder north wanted, but could not grow, during the winter. Further, the climate was congenial for dairy farming or fattening beef cattle, and so, given storage and transportation services, there was virtually nothing that the south could not hope to produce and send north. Finally, manufacturing towns were growing up in the south and wanted food. Hence during the last forty years the south has turned to "diversified" farming; only one-third of the value of its land products today is cotton. Feeding cities has become more important than feeding cotton factories.

After the Civil War mining and manufacturing grew rapidly. This growth, which eventually made the country the largest manufacturing nation of our time, was due to a combination of factors (1) The United States itself was a large market. Its population grew

from 31,000,000 in 1860 to 76,000,000 in 1900, and to 113,000,000 in 1924. A high tariff imposed during the Civil War was occasionally raised to give the local manufacturer substantial protection against his foreign rival, but inside that wall there was complete free trade and no tariff barriers to prevent goods produced in one state from being sold in any of the remaining forty-seven. Thus the home market was big enough to allow manufacturers to produce on a large scale.

(2) The country had nearly all the necessary raw materials and minerals inside its own boundaries. Nature had given abundant coal, petroleum, natural gas or falling water to provide power or heat, and rich deposits of iron, copper, silver, lead, and most other metals. The minerals were sometimes found in big, rich veins or seams; in places they were very near the surface, and so could be extracted cheaply. The richest iron ore deposit discovered at the western end of Lake Superior was virtually a hill-range of ore, covered with a thin coating of earth. The ore could be broken by blasting, loaded with steam shovels into trucks, and run down to the water's edge. Under such conditions iron ore was for a time "as cheap as dirt", and since the Lakes provided a water-route nearly all the way to Pittsburgh—a thousand miles away—iron masters got very cheap raw material. In Alabama iron, coal, and limestone were found in plenty within a few miles of each other, and when the cotton states began to set up factories to weave cotton fabrics they had the raw material, coal, and "hydro" all at their door. Only for a few commodities, especially tropical products such as rubber, tea, coffee, jute, and palm oil, was the country dependent on outside supplies.

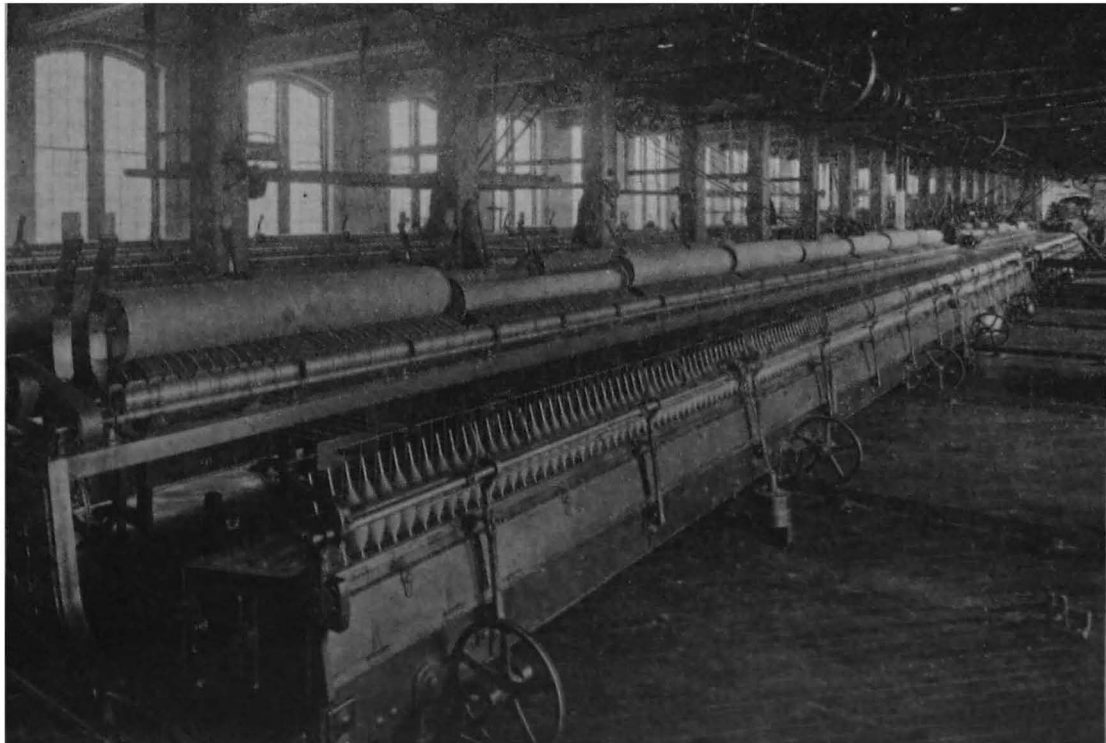
(3) Most products of the countryside called for treatment in factories before they reached the consumer. Grain had to be turned into flour or breakfast cereals,

butter and cheese began to be made in factories instead of on the farm, the canning of fruit and vegetables became a big industry, and huge slaughter-houses and packing plants were necessary to prepare the country's meat and bacon.

(4) The natural growth of the native population, and the rising tide of immigration, supplied the country with the labour needed for mining and manufacturing expansion. Between 1870 and the end of the century the annual immigration figure fluctuated between 300,000 and 800,000, but after 1900 the stream turned into a flood, and during six of the years between 1900 and 1914 over a million new-comers landed on United States soil.

The old stream of immigration from Germany and the United Kingdom dried up after 1880, but in its place came a much larger one from Austria, Italy, Russia, the Balkans, and Eastern Europe generally. Often those who came from these lands were illiterate and very poor; they had little desire to go on the land, and in any case there was very little free land for them to go on; they had little manual skill, and were often fit only for tasks that called for physical strength, willingness to do unpleasant work, or nerves that could stand the strain of rapidly repeating one small process. But they could be quickly taught how to feed the new automatic machines, they did not object to heavy or repulsive tasks, and the wages they received were a fortune when compared with their earnings in the old world.

(5) Inventive ingenuity, a big market, and comparatively high wages led to the fullest possible development of large scale production and subdivision of labour. Even where machinery could not be used, division of labour was carried almost to the point of "one movement one man", and in the meat packing industry the task of killing and dressing cattle was so highly subdivided that



**In the evolution of machinery there are few more striking contrasts than that of the primitive spinning wheel and its modern form**

it now takes 44 men, each doing a different thing, to deal with a cow, 31 to handle a pig, and 38 to dismember a sheep. Each of the 200 operations involved in assembling an automobile engine is allotted to a different man, who may spend all his time tightening a nut or putting in spark plugs. Where machinery was employed the methods of controlling, starting, and stopping the machine were simplified as much as possible, and a special machine was designed for each task. Conveyors, steam shovels, electrical cranes and similar devices were designed so that large quantities of material could be lifted and moved with very little human labour, and many old manual occupations, such as glass-blowing, were revolutionized by the introduction of machinery. Thus cheap mass production of standardized articles was made possible.

(6) Some American manufactured products found a foreign market on account of their cheapness, and some because they were better suited to foreign requirements than were those of any other country. Often the "Yankee" article was ingenious, adapted to conditions in new countries, and full of devices to save time and labour. New countries such as Canada and Australasia had needs much like those of the United States, so farm implements, the tractor, the cheap but ever-serviceable motor-car, and the labour-saving tools and machines appealed to producers in other lands. Finally, extensive advertising campaigns kept the alleged excellencies of the American article before the eyes of the whole world.

*Coal and Petroleum.* Under the influence of these and other factors, mining and manufacturing increased rapidly in size and variety after 1870. In 1870, 33,000,000 tons of coal were produced in the United States, but in 1920 the output was 660,000,000 tons, or nearly half the world's total production. Little of this coal

went abroad; some of it reached Canada, but the great bulk of it, supplemented by oil and hydro-electricity, was used to warm buildings and to turn the wheels of industry and transportation. Petroleum, or mineral oil, had been known to exist underground even in the 18th century, for a film of oil was found on the surface of some springs, and in the eighteen-thirties one or two wells were found from which the oil "gushed" some height up into the air. But the oil was known only as a medicine or embrocation, and was sometimes bottled and sold by chemists. In the fifties more important uses were found, and the first well was drilled at Titusville in Pennsylvania in 1859. On the first day the well gave 25 barrels of oil, and the output for the first year was 2,000 barrels.

The growth of production, treatment, and marketing of petroleum products is one of the most remarkable stories of modern commerce. The chemist discovered one product after another by treating the crude material; coal oil was the first useful commodity, for it offered a better illuminant than whale oil or candles; gasoline came next, while the by-products were very numerous and varied. The engineer solved the problem of transporting oil; at first barrels were used, but the barrel cost more than the contents. Then tank wagons were built for the railroads, and finally pipe lines were laid down, through which the oil could be run in bulk for very long distances. Tank steamers were designed for sea-carriage, storage tanks were built at ports and railroad stations, while lorries distributed supplies to the roadside retailer.

Production grew from 2,000 barrels in 1859 to 200,000,000 in 1910, but the insatiable demands of the rapidly-growing motor industry after that date sent production up to over 700,000,000 barrels in 1923. At first the yield was mostly from Pennsylvania, but in later years

oil was struck further south, especially in Arkansas, Oklahoma, and Texas, and in 1923 half the oil output of the country came from this area. How long the oil resources of the country will last in face of the enormous and growing demand for gasoline and oil only the future can tell; but many experts fear that in oil, as in timber, the country is mining an asset that will soon be exhausted.

Water-power played an important part in some districts. Over a century ago the falls and rapids on the eastern slope of the Appalachians were used to turn water-wheels for grinding corn and working various kinds of machinery. The textile industry of New England grew up along the "fall line", *i.e.*, the place where the rivers dropped down to the coastal plain. But eventually the country began to harness falling water to generate electricity, and after 1890 hydroelectric plants were erected all over the Appalachian "fall area", at Niagara, and in California. In recent years many plants have been built in the southern states, and provide the power for the cotton factories that have been built virtually in the cotton fields.

*Iron and Steel.* On the foundation of ample fuel, power, and raw materials the many industries of the country grew to great size. Iron and steel production expanded over ten-fold between 1880 and 1923, and in the latter year the United States was making two-fifths of the total world output. Pittsburgh was for a long time the centre of the industry, using local supplies of ore, coal, and limestone. Then when ore was found in the Lake Superior region, Pittsburgh was able to get it cheaply down the Lakes. But after 1900 the deposits of the southern states were given increased attention, and Birmingham (Alabama) and adjacent centres to-day produce one-tenth of the country's supply.



At every stage this industry sought the advantages of large-scale production and powerful labour-saving devices. The steam shovels on the ore range would lift 10,000 tons a day; the boats built for the ore trade could carry 20,000 tons each, and the cargo could be loaded and unloaded quickly by mechanical grabs and other devices. At the works, the Bessemer convertor, which held only ten to twenty tons of métal, was replaced by the open hearth furnace, which held fifty to two hundred tons. Powerful cranes or magnets were installed to carry the metal from one part of the works to another, and some producers of raw iron or steel began to make it up into plates, wire, rails, etc., in order to produce the finished article without having to re-heat the metal. Integration became popular; iron and steel plants secured their own ore deposits, coal mines, limestone supplies, coke ovens, ships, railroad tracks, and all the plant necessary to turn ore into finished products.

In addition to iron and steel, the country built up a large production of copper, lead, zinc, aluminium, and silver. Copper had formerly been used chiefly for making brass, but as the use of electricity grew, so also did the need for copper. Rich deposits were found round Lake Superior before 1860, and later on large quantities were discovered in Arizona and Montana.

*Machinery.* Of the many uses to which these metals were put, machinery and automobiles stand out, along with the iron and steel consumption of the railroads. After 1860 Great Britain's supremacy as machine-maker for the world began to be challenged by Germany and the United States. Often the American machine was modelled on British ideas, but was improved in order to make the control more simple and to allow it to do much more work with the same amount of labour. The American locomotive was designed to haul much larger

loads than its British fore-runner, just as the freight car was built to hold possibly ten times as much as the British wagon. But many machines were either invented or developed almost entirely on American soil, and were the product of many ingenious inventors who were striving to find a new, easier, quicker or more productive way of doing things. The sewing machine, boot-making machines, the typewriter, the cash register, the typesetter, agricultural machines, the huge printing presses, and the whole range of electrical devices, all made a profound change in the method of doing work in the factory, the office, and the home.

*The Automobile.* Some important industries grew up to develop new commodities or services. In making electrical equipment and automobiles the United States was investigating almost as soon as anyone, and played a prominent part in exploring these new fields. In 1895 only four motor cars were made west of the Atlantic; ten years later the output was less than 25,000 cars, and a few trucks were built. But by this time technical difficulties in the construction and action of the engine were being more easily overcome; simplicity, durability, comfort, and greater power were all sought for; more efficient carburetors, clutches, gears, etc., were designed, while bodies were built which looked less like those of a horse cab or a sleigh on wheels. For a time manufacturers were largely assemblers of parts bought from a number of separate makers, but eventually firms began to make their own parts and built up enormous plants with many departments. One or two of the largest companies pushed integration to great lengths; they had their own iron and coal mines or timber reserves, their own ships or railroad cars, blast furnaces and steel converters, their own machine shops, foundries, and other departments necessary for making every part of

the car except the tyres. They designed highly automatic machinery and cunning conveyors, and evolved the "assembly line", where a long row of men, standing beside a moving track, assembled the car bit by bit as it passed along the line.

These methods made "volume production" possible; the largest firm produced nearly two million cars in 1925, and in less ambitious factories output grew to over 100,000 vehicles a year. These methods also enabled the cost of production to be reduced, in spite of improvements in the efficiency, comfort, and convenience of the product, and of rising prices and wages. One make of car sold in 1925 at about one-third its price in 1909, although the improvements during those years had been great and far-reaching. So, with cheap fuel and a reliable moderately-priced vehicle, the United States became a huge active market for the production that centred on Detroit. The industry became the largest single manufacture of the country in the value of its product, and its metropolis grew to be the fourth city in the land.

Of other manufactures nothing need be said, except that as they grew in size and variety they supplied more and more needs that once had been met by importation, or needs which only made themselves felt when the invention of some new thing, *e.g.*, radio, added one more to the wants of mankind. The capital employed in manufacture grew, in billions of dollars, from 2.8 in 1880 to 9 in 1900, to 22.8 in 1914, and to 45 in 1920—a sixteen-fold increase in forty years. During the same period the value of manufactured goods rose eight-fold, though some of this increase was due to the rise in prices that took place after 1896, and especially after 1914. Rural production still remained important, but the town and city attracted a growing proportion of the population. In 1850 80% of the people lived on the

land or in centres of less than 2,500 inhabitants; in 1920 less than half (48.6%) lived there.

**Foreign Trade** At first manufacture was almost entirely for the home market, but gradually an increasing portion of factory products was sent abroad, especially of those goods which were distinctively "American." While therefore the country became a less important exporter of foodstuffs and raw materials, it rapidly became a large exporter of machinery, vehicles, iron and steel, fabrics, clothing, electrical appliances, films, etc. Between 1901 and 1913 the value of manufactured exports rose 155%; then during the war the Allies had to lean largely on the United States for munitions and the ten billion dollars lent by the government to the Allies was spent on American munitions, ships, and food. After the war, more money was lent to some European nations, and most of this was spent on American goods needed for the reconstruction of these countries. The volume of manufactured exports was at least 50% greater in 1925 than in 1913, and in the former year half the total value of exports consisted of manufactured goods.

While the products sent abroad were more varied in kind, they were also sent to an increasing number of markets. In 1850 over half the exports went to the United Kingdom, and ten years later 77% went to Europe. By 1900, however, other markets were creeping into importance, while Canada then, as always, was a large customer. Thus in 1924 Europe absorbed only 53% of United States exports, Asia took 11% of them, and Australasia and Africa were becoming larger buyers.

But in places an American manufacturer found that some foreign market either was so large and profitable, or the tariff wall round it so high, that he "jumped the tariff" by setting up a factory to supply that market on the spot. This happened especially in Canada, but

American branch factories are now found in England, Australia, the Orient and elsewhere. Thus the use of American patterns and brands has been increased abroad, and the influence of America on the world market has been widened.

As the character and destination of exports changed, so did those of imports. In 1875, 70% of the imports were manufactured articles, and were drawn chiefly from Europe. The rest were crude materials, such as chemicals, iron and steel, hides, wool and raw silk, and foods from the tropics. But the higher tariff imposed during and after the Civil War, and the rise of the Pittsburgh industry, reduced the imports of iron and steel, and a high tariff on wool encouraged farmers to keep sheep. The growth of manufactures reduced the demand for many imported wares, while at the same time it created a rising demand for foreign raw materials which the soil or climate prevented America from producing at home. Today therefore over half the imports are foodstuffs, or materials wanted for manufacture, and only two-fifths are manufactured commodities, many of which are special brands or qualities made overseas or luxury goods. The great prosperity of the country during and since the war has made the United States a big importer of luxuries, ranging from 16th century books or 17th century "old masters" to the most costly modern products of Europe and the Orient.

*Decline of American Shipping.* In the midst of all this growth one industry decayed. In the fifties it seemed probable that the United States would rival Great Britain as ocean carrier and shipowner. But the Civil War dealt a hard blow at the shipping interests, for the swift cruisers, such as the *Alabama*, sent out by the southern states to attack northern vessels, captured over 250 ships and drove the owners of merchant vessels

to sell their ships to neutrals. By the end of the war only about a quarter of the country's sea trade was carried in American holds; ten years earlier the fraction had been three-quarters. What the Civil War began, iron, steel, and steam ended, for by the sixties the iron steamer was fighting its way to the front and challenging successfully the old supremacy of the clipper. Britain had abundant cheap iron and was gaining skill in making marine engines; but as yet the United States was making little iron. To take up the challenge would involve the scrapping of much of the old shipbuilding plant and the erection of yards capable of beating Britain at steamship-building. But the capital of the country was now being wanted for the railroads of the west and the new manufactures; here was a naturally protected field, offering greater profits than could be found in a shipping tussle with Britain.

"The American people, therefore, turned from the sea to the land, and resigned the high position which they had formerly held in foreign carrying trade" (Day). In 1861 the United States flag had waved over 2,500,000 tons of ocean shipping; by 1900 only 800,000 tons carried it on the seven seas. True, the country still retained the coastal trade and the inland water navigation, for navigation laws forbade non-American boats to engage in coastal traffic and with the growth of river and Lakes trade domestic shipping grew rapidly. But of the foreign trade only about one-tenth was carried in United States ships in 1900, and the position was little different on the eve of the war. During the war shipbuilding became active, in order to get American goods to Europe and fight the submarine menace; sailing ships, steel and even wood steamers were built, and for a season an attempt was made to construct ships of concrete. But these "stone jars" were unsatisfactory, and after the war there came a depression which

reduced the demand for shipping space. Many American ships were therefore driven into idleness and many were sold; but some permanent result remained, and the country is now able to carry probably three times as much of its passenger and cargo traffic as it could in 1914.

*Marketing Methods.* The task of transferring the vast volume of United States goods from the hands of the producer to those of the consumer called for the creation of elaborate machinery for collection, transportation, and marketing. Some commodities came under the control of an integrated firm, and so there might be no buying or selling between the raw material and the finished product. Goods which had a big city, national, or international market in their raw state, were disposed of through the bottle neck of some organized produce exchange. Some goods depended for their sale on the extent to which customers could be persuaded to buy them, or to buy one brand of them in preference to others. Here the use of advertisements was resorted to, and the last forty years have witnessed an amazing advance in the quality, quantity, cost and skill of advertising in all lands. Prominent artists have been enlisted to wield their brush or pencil in the interests of a soap, a liquor, or a railroad; newspapers have become advertising sheets rather than suppliers of news; town and countryside have been sprinkled with more or less attractive billboards, aviators have written the name of a newspaper in trails of smoke across the heavens, and if man could find a way of flying to the moon one of his first passengers would be an advertisement sign-writer. The United States developed advertising to a very high degree, and in 1925 alone was said to have spent in that way at least \$1,400,000,000, a sum equal to one-third of the total exports of that year and about equal to the

value of the cotton crop or the tobacco crop, or the expenditure on public schools.

As a further means of persuading people to buy, the instalment system was developed. To buy on credit was no new thing, for the farmer, both in pioneer days and since, has been accustomed to getting his machinery, seed, and general goods at various times during the year and postponing payment until he sold his crop. For the rest of the population some method of extended payment had to be devised if customers were to be found for commodities which cost more than could be paid at once out of the spare cash of the weekly or monthly income. So the principle was adopted that goods which would be in use for many months or years might be paid for in instalments spread over a long period. "Paying out of income" instead of out of accumulated savings became a general practice, for the purchase of furniture, automobiles, radio sets, musical instruments, and even stocks and bonds. Three-quarters of the cars sold today are paid for in this way, and while it is probably true that this easy method of buying comforts and luxuries has led to extravagance and loss by people who tried to "live beyond their means", it has enabled many to take advantage of labour-saving or pleasure-giving devices, which under cash purchase conditions would be bought only by the more wealthy sections of society.

The United States, like all countries, had **Fluctuations** its economic ups and downs. For instance, in 1837, a period of speculative land-buying in the west, accompanied by heavy investment in new canals and railroads, came to a dismal end. In 1857, "too much speculation, too rapid railroad building, too much capital invested in mills and factories, too great expansion of bank credit" led to collapse. For a time "half the furnaces and forges of the country were



closed; factories and machine shops shut down, shipbuilding collapsed, and the ocean-carrying trade for a time was almost annihilated" (Webster). In 1873 excessive railroad-building in the west again brought its inevitable reward; in 1893 over-production, over-speculation, and trouble with the silver currency helped to bring depression, while 1907 and 1920 were years in which booms came to unpleasant ends.

In the crises or panics that preceded all these depressions it was evident that the banking system was so defective that it could do little to prevent the financial breakdown or lessen its severity. Banking in Britain and Canada is carried on by a few big banks, which have their branches scattered all over the land. Their policy is controlled from a few headquarters. Banking in the United States grew up in the hands of thousands of local banks. Some of these were *state banks* or *trust companies*; they worked under state laws, and after 1866 were virtually forbidden to issue notes. Others were *national banks*; they operated subject to regulation by federal laws, and could issue notes. By 1907 there were about 25,000 independent institutions, ranging in size from New York firms with resources of a billion dollars to little village banks in which the president worked behind the counter. Consequently the reserves, on the basis of which the banks could grant credit, were scattered in many hands and places, and there was no arrangement among the banks by which these reserves could be concentrated and rushed to any spot where they were needed. It was therefore little comfort to know that the banks in Detroit had far bigger reserves than they needed if the banks in Chicago were being compelled, for lack of funds in their vaults, to restrict or reduce credit.

Further, the banks could not issue notes on the basis of gold; they could issue them only in proportion to the value of government bonds they held. These bonds

represented the national debt, but as that debt was shrinking rather than growing before 1914, the quantity of notes the banks could issue was limited and inelastic. A good note issue should be based on the gold supply and the rising or falling volume of business. But all the gold of Klondyke and all the needs of booming business could not add a dollar bill to the United States note issue.

After the severe crisis of 1907 an attempt was made to remedy these defects. By the Federal Reserve Act of 1913 (amended in later years) the country was divided into twelve districts, and in each a federal reserve bank was set up. Into this bank the local national banks *must*, and the state banks *might*, deposit their reserves. Thus the district reserve bank became the guardian of a big heap of bank reserves. These reserves were to help the banks when they needed assistance in time of crisis, or when there was any special reasonable demand for additional credit; and in order to give them this assistance special "federal reserve notes" could be issued, backed by not less than 40% of their value in gold. Thus the paper currency was made more elastic, and the reserve banks stood as a rallying point in time of danger. At the same time they were to act as a brake on the optimism of bankers and business men, by increasing the interest rate on money they lent the ordinary banks if they thought the banks and their borrowers were getting reckless. There is much debate whether the reserve system has achieved what it was established to do, but it seems certain that the depression of 1920 would have started with a much more serious crisis than actually occurred if the reserve system had not been in existence.

The United States is popularly regarded as "Trusts" the home of the trust, and certainly it was in that country that the biggest and most important attempts were made to restrict or eliminate

competition. Like Great Britain, the United States regarded competition as a natural law of life and business, and as a safeguard against exploitation by the monopolist. But after 1870 competition in places grew so fierce that a different view began to be held. Agreements among rivals were made, and some of them worked satisfactorily. But little attention was given to the kartell, and most to devices by which production and sale were brought under one control through various forms of amalgamation.

The first device was the *trust* proper. Shareholders in a number of firms put their shares into the hands of a small body of trustees; these men thus held the share capital *in trust* for the real owners; but they were able to regard all the formerly competing firms as parts of one big concern. All the plants were controlled from one headquarters, competition was eliminated, inefficient works were shut down and production was concentrated on the best-equipped establishments. Then at the end of the year the trustees distributed to the shareholders whatever profit had been made. This plan was first adopted by Rockefeller in the oil refining industry in 1882, and worked so successfully that it was widely copied. But public opinion soon became so hostile to the trust that Congress and many state legislatures passed laws between 1886 and 1890 declaring that all contracts, trusts, and conspiracies in restraint of trade were illegal.

Since 1890 the country has made fitful and not very successful efforts to enforce anti-trust laws. The old-fashioned trusts were dissolved, but in their place have come full amalgamations, and in one way or another many firms have been merged into one, or have been brought under one permanent control. One of the largest combinations was the United States Steel Corporation, which in 1901 gathered under its wing the ten

big companies that dominated the iron and steel industry. Its capital was well over a billion dollars, and it became popularly known as the Billion Dollar Trust. In more recent years various automobile firms have come together in the General Motors Corporation, and there have been hundreds of other "mergers".

The path of the combine was often far from smooth, and many fell by the wayside. Firms which stood outside the amalgamation sometimes did better than their big rival, and competition was far from banished. The government occasionally prosecuted offenders against the anti-trust laws, though seldom with much effect. Some amalgamations floated themselves on far more stock than they could pay a satisfactory dividend on, and in times of depression their financial statements wore a woe-begone look. Hence in 1904 a French writer predicted that "We may expect to see them fall, one after another, like rows of tin soldiers". But after the depression of 1907 the outlook became more promising; the war and the post-war periods of prosperity put one-time weak giants on their feet; the government virtually abandoned its efforts at "trust-busting", and the big corporation now has its roots deep in the economic life of the country, while its branches are spread far and wide.

**Supplementary Reading.**—Day, part 5; Webster, "General History of Commerce", chaps. 27, 29; Coman, "Industrial History of the United States"; Lippincott, "Economic Development of the United States"; Gras, "An Introduction to Economic History", chap. 6, and "A History of Agriculture", chaps 12-16; Duncan, "Marketing, its Methods and Problems"; Turner, "The Frontier in American History"; Moulton, "Financial Organization of Society"; Faulkner "American Economic History".

## CHAPTER VIII.

### THE COMMERCIAL DEVELOPMENT OF CANADA TO CONFEDERATION

**C**ANADA today is, in most of its economic features and activities, a product of the last hundred years. While therefore there is much that is interesting and romantic in the long stretch of time from Cabot and Cartier to Brock and Simcoe, our time will best be spent examining the development since Waterloo. Before 1815 the Canadian stage is sparsely occupied; the story is a jumble of war and national rivalries, of struggles for fur and fish, of perilous explorations, and of not always happy contacts with the Indians. But by 1815 some important problems have been settled, of which the chief is that Canada is to remain a British colony; people can turn to the arts of peace, and the lines along which the country is to run during the next century are being laid down. Let us therefore begin with a survey of economic conditions in the eighteenth-

Canada at that time housed four separate groups of white people. In the far east were the small settlements of the Maritimes; along the St. Lawrence and the north shore of Lake Ontario lay the farms that had been hewn out of the forests, while behind them and up the Ottawa lumber men were plying the axe; out north and west the Hudson's Bay Company was bartering goods for furs; and beyond the Rockies Canadian and United States traders were establishing their posts and wrestling with each other for control of the fur supply. These four districts had little contact with each other, and could not hope

to have until means of communication were made or improved. Each pursued its own career, devoting its attention to one or more of the four F's—fish, fur, forest, farm—which were the source of Canada's wealth until a fifth F—the factory—was added in the second half of the 19th century.

*Immigration.* In tapping its natural resources Canada was helped by a big influx of immigrants after Waterloo. Great Britain, faced with unemployment and distress, encouraged her "surplus" population to emigrate. Ship-owners sought out passengers with which to fill their boats, philanthropic societies gathered the poor together and shipped them off, Scottish lairds transplanted part of their clans, land or colonization companies strove to put the idle labour of the old world on to the idle land of the new, while thousands of individuals, dissatisfied with their political or economic conditions, or longing for land and adventure, joined the great exodus. Younger sons of well-to-do families were attracted by the thought of getting an "estate" cheaply, and we read that of six settlers in one region near Peterborough (1833) "four of them have been to a university, one at the military college at Woolwich, and the sixth, though boasting no such honours, has half a dozen silver spoons and a wife who plays the guitar". The stream of immigration varied considerably in volume, but never dried up; between 1831 and 1836 nearly 200,000 new-comers passed through Quebec and Montreal.

Some of these new Canadians came alone or with their families, but some were members of groups under the control of a leader or land company. Some settled in the Maritimes; Lord Selkirk deposited a large contingent of Highlanders in Prince Edward Island, and helped to give the island a permanently Scottish atmos-

phere. Some settled in Nova Scotia and many in Lower Canada; but the great majority went further west to occupy land as far north as the Ottawa and as far west as Lake Huron. Scottish groups made homes at Perth, Renfrew, Lanark and other places north of Kingston; Yorkshiremen scattered Yorkshire names, such as Scarborough, Pickering, and Whitby, along the edge of Lake Ontario; in 1825 a party of 500 Irish from County Cork found homes around Peterborough, while the Canada Company planted communities further west at Guelph, Goderich, and other places between Lakes Ontario and Huron. Out west was Selkirk's lonely outpost on the Red River.

*Population.* This immigration helped substantially to swell the white population of the country. At the time of the British conquest of Canada, there were probably less than 100,000 Europeans in the whole country, and at the beginning of the 19th century the number, despite the influx of loyalists, was only about 300,000. But in 1824 Upper and Lower Canada contained nearly 600,000 white folk, and by 1844 this number had doubled. Down east, Nova Scotia was the only province to attract many immigrants; its population doubled between 1806 and 1824, and more than doubled again by 1851. The total population of British North America, excluding Newfoundland, was a million in 1830, and two million in about 1846. It took another 13 years to add the next million, and the four million mark had not been reached when Confederation came.

*The Maritimes.* What sort of a Canada was it to which immigrants came in the twenty years following Waterloo? In the Maritimes certain areas were concentrating on special branches of production. New Brunswick excelled as lumber-producer, because of the quantity and quality of the forests found along the valleys of the Saint John

and Miramichi, and the ease with which logs could be floated down these streams. British capital entered the industry, and in eight years during the twenties over 40,000 masts and spars and two million tons of wood were exported, while much timber was used in the thriving shipyards of the province. The lumber interests were hit hard by frequent forest fires, the most dangerous of which swept nearly the whole Miramichi valley (1825), and was described as "one of the most terrible natural conflagrations of which we have any record in the history of the world". In the backwoods paper money and rum were plentiful, but, to quote a contemporary author, "New Brunswick is healthy; old age is frequent in persons possessed of the slightest degree of sobriety". On the coasts fishing was actively carried on in locally-built boats, and some of the more venturesome inhabitants of St. John were sending out vessels to catch whales and seals in the Pacific.

Nova Scotia resembled New Brunswick in its staple activities of lumbering, fishing, and shipbuilding. Nearly a hundred ships were launched each year at Pictou and other shipyards, and many of them crossed the Atlantic to be sold in Great Britain. Cod-fishing was an important industry, with 2,000 boats at work. But the Nova Scotian was becoming more than a catcher of fish or an axe-man. Among the magnificent harbours of the province was that of Halifax, the chief American station of the British fleet and garrison town of the British troops. The port was ice-free and suitably situated for trade with the West Indies. To feed the port and fortress and to supply the Indies, the population began to clear land, grow crops and tend livestock; roads were made, and farming developed. The 2,700 ships which in 1830 entered the harbours of Nova Scotia to take away farm products, fish, and lumber, brought manufactured goods from Britain, sugar, wines, coffee,



tobacco, and nearly a million gallons of spirits from the West Indies. Halifax became a busy port, with rich merchants, bankers, and shipowners.

Nova Scotia's mineral wealth was already known, as was that of Cape Breton. But there was no demand that would justify the exploitation of the iron deposits, and the British government discouraged the working of the coal-beds, lest cheap fuel should lead to the establishment of manufactures and reduce the demand for British wares. In 1827, however the Duke of York, to whom the mineral deposits had been given, leased them to a group of his creditors, who became known as the General Mining Association. This Association, with a capital of \$1,600,000, was Canada's first big joint stock industrial enterprise. Soon it had over 800 men at work on three mines, the most important of which was at Sydney. Steam tugs were built to haul the coal barges from one mine to the vessels in the harbour, and railroads were built from the other mines to the berthing places of ocean-going boats.

When the *Royal William* steamed from Quebec to London in 1833 it called at Pictou to take on local coal for its journey across the Atlantic. When England was reached, the ship's officers spoke in high praise of the Canadian fuel, and declared that they preferred it to British. With the growing use of steamships and the coming of railroads, Sydney coal found an expanding market on the Atlantic seaboard. In addition, the mining company opened up a valuable deposit of gypsum, which was exported to serve as fertiliser on the farms of the eastern United States. The gypsum was dug out of the face of cliffs at the water's edge and loaded on to vessels lying alongside.

Prince Edward Island, now the "garden of the gulf", had to face two big obstacles in its early career. (1) Most of the land had been given to absentee Scottish

proprietors, who would neither come and work the land themselves nor sell it to others. (2) Britain had been told that the island was a heap of sand, rock, and swamp, or at best was only "a pastoral country". Progress was therefore slow; few settlers came except a handful from the Hebrides and other parts of Scotland. Only gradually was it proved that the land was fertile and the climate good and healthful. Some fish and timber found their way to outside markets, and a few ships were built, but chiefly the island was occupied by small self-sufficing farmers.

*Lower Canada.* By 1825 Lower Canada had become, and Upper Canada was becoming, an almost unbroken fringe of cleared settlements along the water-front of river and lake. The seigniorial system still survived in the old settlements of Lower Canada; tenants held their long ribbon-like strips of land—sometimes sixty times as long as they were wide—on feudal terms. They paid a small annual rent in money, handed over periodically some provisions or livestock, such as a pig, a goose, a few fowls, or some wheat, took their corn to be ground at the landowner's grist-mill and gave him one-fourteenth of the flour; when they fished, a portion of the catch went to the seignior's house, and each year a fixed part of the grain crop was given to the local priest.

In 1840 there were still about 170 seignories, containing nearly 11,000,000 acres, but with the changes that had taken place since 1763 the system no longer worked satisfactorily. Many estates had passed into the hands of British owners; proprietors were beginning to demand that their lands should yield more revenue, and insisting on the payment of the annual dues as well as those which should be paid, but had often been evaded, when a holding changed hands. The habitant therefore grew

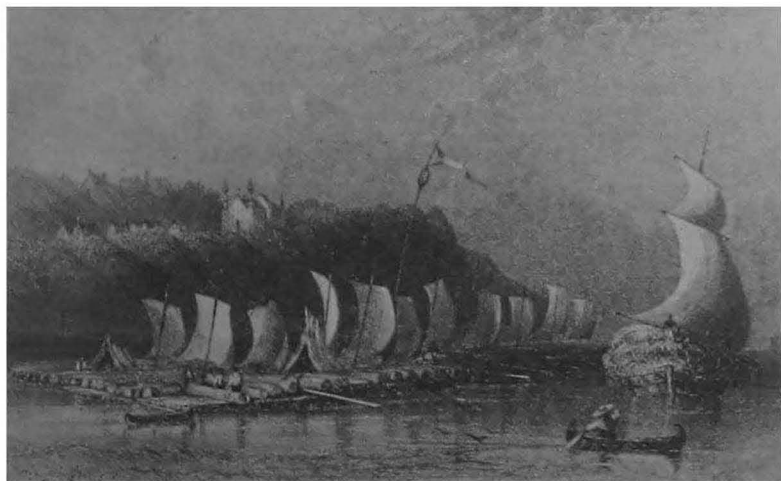
more and more dissatisfied, and in 1854 parliament decided to buy out the rights of the seigniors and abolish the old system.

The French-Canadian country people moved slowly ; they produced for themselves rather than for a market; they "remained the same ignorant, superstitious, unambitious, and, when let alone, harmless folk as of old. They sent out hunters, trappers, lumbermen, and occasional settlers to the west, but in the main stayed at home, subdividing their farms among their numerous progeny". Some of them went out to clear new areas, and immigrants from the United States and the United Kingdom added steadily to the farming resources of the province. By 1840 it was estimated that there was one British inhabitant for every two French-Canadians, and though the British were found most strongly entrenched in the cities of Quebec and Montreal, they were also scattered far and wide in farming communities, especially west of Montreal.

The task of the pioneer settler was a three-fold one. (1) He had to clear some land, in order to make room for his house and crops, and meanwhile live on his capital or find work to keep him till his first crops were ready for harvest. (2) He had to supply his own needs for food, shelter, and clothing as far as he possibly could with his own skill and labour. (3) He had to produce a marketable surplus of something which he could give in exchange for the goods he wanted from the outside world.

The first task was simplified to some extent (after 1815) by the fact that Canadian lumber was finding a large market in Europe. If the settler's land was near a stream, the trees, when cut, could be floated down to the Ottawa or St. Lawrence, and so reach a market. Further, the lumber industry was growing to great size,

especially up the Ottawa Valley, and in winter many men could find employment in that industry or by hiring themselves out to clear settlers' land. As a writer said in 1840, "the lumber trade is of the utmost value to the poorer inhabitants, by furnishing their only means of support during the severity of a long winter, particularly after seasons of bad crops, and by enabling young men and new settlers more readily to establish



Early settlers on the St. Lawrence taking their timber to market

themselves on the waste lands". In this winter occupation many found a way of making the first years of settlement less lean.

**Potash.** For the timber that could not be sold another use was found. European textile manufacturers needed potash for bleaching their fabrics, and during the 17th and 18th centuries Holland was the most famous bleaching country. The Dutch secret of success seemed to rest on the use of "ashes of Muscovy", *i.e.*, potash made

from the ash of trees cut down and burnt in Russia. During the 18th century, Scotland, then Ireland, and finally England began to rival the Dutch at this work, and as the cotton industry grew up in Lancashire the demand for potash rose rapidly. In 1767 a British settler in Lower Canada set up a potash plant, and in 1770 50 tons of potash were shipped to England. The product obtained from North American trees, especially



Quebec was the chief shipping point for the early lumber trade

from maple, beech, and birch, was superior to that brought from Russia; its percentage of impurities was much lower, and the best "pink Canadian potash" was at least 60% pure.

Here was a valuable source of income for the pioneer; the timber that littered his clearing could be turned into money—or rather into goods—by a process that was simple and inexpensive. Potash production was therefore an important part of pioneer life. The timber was either

burnt standing, or, when cut, was collected into piles and set on fire. The ashes were put into a trough or tub, and water was poured on them at intervals for several days, in order to dissolve all the soluble chemicals, chiefly potassium compounds. This solution, generally called lye, was put in a big iron kettle and evaporated over a wood fire. What was left in the kettle was potash; if it was treated further to free it from impurities and make it crystalline it was known as *pearl ash*.

Almost every Canadian pioneer farm had its tub and potash kettle. The chemical went to the local storekeeper and so, through Montreal and Quebec, to Europe. Farmers who did not make potash themselves sold the wood ashes, and the local merchant extracted the chemical in his own plant. In 1831 nearly 200,000 barrels of pot and pearl ash went through Quebec, and until 1850 the export trade was important. Eventually, however, the farms were all cleared and the farmers too busy to bother with the kettle and tub; European chemists found other bleaching materials or discovered new methods of making potash, and one of Canada's early occupations was abandoned.

*Pioneer Production.*—The second task of the pioneer was to feed, house, and clothe himself and his family. On good land the trees were large and their trunks stood far apart. If they could be prevented from bursting into leaf and thus shading the ground, the space between them could be cultivated almost at once. The common practice was therefore to "ring-bark" the tree, *i.e.*, cut off a ring of bark about a yard from the ground. This prevented the sap from rising; the tree put forth no leaves and soon died. The gaunt dead giants did not look picturesque, but they could wait till the farmer had leisure to burn or cut them down; meanwhile the soil was open to the sun, and, thanks to the coating made

during long centuries by decayed leaves, was fertile and easily worked. According to one contemporary writer "fifty bushels of wheat per acre are frequently produced on a farm where the stumps of trees, which probably occupy an eighth of the surface, have not been eradicated ; some instances of 60 bushels per acre occur, and near York (Toronto) . . . 100 bushels of wheat were obtained from a single acre ! In some districts wheat has been raised successfully on the same ground for 20 years without manure".

Time and hard labour gradually turned the pioneer's forest patch into a productive mixed farm. Wheat, corn, potatoes, and vegetables were the staple food crops, rye or barley the chief drink crops ; in spite of wolves and bears, a few hogs, goats, sheep, cattle, and poultry were kept ; fruit trees were planted, flax and tobacco were cultivated. Nature added her quota to the food supply, in the form of fish, venison, duck, pigeon, nuts, and maple syrup, and an ice-house allowed fresh food to be kept through the winter. Thus a developed farm could supply most of the essentials of a simple well-fed life. But before that stage was reached there were two or three years of back-breaking work, and winters in which the chief food was unleavened bread and salt pork—"the standing dish for breakfast, dinner, and tea".

The pioneer had to be jack-of-all-trades. He built his own home, first a wigwam of bark and boughs, then a shanty, and then a log-house. When the district had become sufficiently populous to support a saw-mill, he took his logs to be cut up, and built a neater and bigger home, with more rooms and fireplaces. For big tasks, such as the construction of a barn, he invited his neighbours to a "raising bee", at which the residents of the countryside cooperated in erecting the building in a few hours, and then cooperated in consuming the

lavish supply of food and drink prepared for the occasion. Most of the furniture in the home and implements on the farm were home-made, and remained so until a carpenter's or blacksmith's shop was set up in the neighbourhood. Wheat had to be ground on the farm until the district got a grist-mill, and skill with axe or other tools was necessary until saw-mills became less few and far between. Candles and soap, butter and bacon, all were the product of domestic labour.

The pioneer household had to make its own clothes. Father made and repaired the footwear of the family ; sometimes he tanned leather, but often contented himself with making mocassins of raw hide. Leather and skins had other uses, and one settler in 1807 recorded in his diary the fact that he had just "helped make a pair of leather trousers" for his eldest son. Deer-skin was often used for making shirts.

Perhaps the most important domestic manufacture was that of woven or knitted goods. French and British immigrants brought with them their old-world skill at working the spinning-wheel or hand-loom, and often brought their wheels as well. In many parts, flax was grown as a minor crop, and probably every farm had a few sheep. The raw materials were made into yarn by the women of the household ; the yarn was then woven into cloth or knitted into garments which made up in warmth and durability for what they lacked in appearance, pattern, or colour. In 1830 it was estimated that there were about 13,500 looms in the cottages and farms of Lower Canada, on which were produced nearly 4,000,000 yards of coarse cloth, linen, and flannel each year. In Upper Canada similar conditions prevailed ; not till the second half of the 19th century did the wheel and loom fall into disuse in central Canada, and even to-day, in many a cottage in Quebec



or in Ukrainian and Doukhobor settlements of the prairies, the whirr of the wheel or the slow clatter of the loom may still be heard.

*Production for Market.*—The final task of the early settlers was to produce commodities that could be sold. This became more easy as the population grew larger in any locality, as means of communication developed, and as a class of traders came into being. The growth of population in Upper Canada was very marked after 1820, and in some areas, especially west and south of Toronto, the number of inhabitants more than doubled between 1823 and 1835. Traffic along the lake shores increased rapidly in volume as more sailing and steam vessels were built, and the old trails through the bush were displaced by rough corduroy roads, which in turn slowly gave place to properly gravelled and graded highways. Following European practice, governments ordered every male adult to work a certain number of days each year on the roads, bringing a wagon and team with him if he possessed one. This statute labour was often badly done, and men preferred to pay half a dollar instead of giving a day's work ; but the system was better than nothing.

Life therefore gradually moved away from the self-sufficing stage towards the commercial. The exports of the two Canadas had risen by 1832 to nearly \$4,000,000 in value. Of this sum nearly half was accounted for by timber ; grain and flour exports were worth about \$1,000,000, and the export of ashes was almost as valuable. Meanwhile the home market was growing, and was helped by the fact that the garrisons and those engaged on such public works as the making of canals, the construction of highways, the building of forts or ships, needed food, clothing, and materials.

**Growth of Trade** The earliest trading phase was marked by the appearance of the pedlar and the village store. Hundreds of pedlars were travelling the roads of New England before 1800, and some of them crossed the border as soon as there was enough population in any part of Canada to make it worth their while. They carried chiefly small articles of domestic use, such as the womenfolk would need—kitchen tinware, pins, needles, scissors, ribbons, combs, buttons, children's books, handkerchiefs, cotton goods, and, later on, such luxuries as clocks, silver-plated ware, and good shoes. In addition they carried news and gossip.

The general store appeared soon after the pedlar. Once population in a district became at all thick or a village began to take shape, someone would set up a general store. The early storekeeper had to be a man of many parts if he was to make a living out of the small number of customers within his reach. Thus we read of one William Bell, who lived near the Bay of Quinte, (about 1830). He was coroner for his district, justice of the peace (or Squire, as he would popularly be called), general merchant, and apparently general factotum. His ledger shows that he sold such varied commodities as whiskey, onions, apples, fruit trees, skins, dressed timber, meat, paper, tobacco, sleigh runners, and men's and women's "furnishings". He was banker and money-lender, he dealt in livestock, kept simple medicines, hired out horses and oxen for ploughing or hauling, did carriage and cartage work, sent money to distant places on behalf of his clients, sold lasts, awls, and leather needed by the family cobbler, lent shuttles and other odds and ends, and even supplied board and lodging. Finally, he established a miscellaneous workshop, in which he and his employees made boots and shoes, shirts, "weastcoats" and "pantaloons", and on one occasion he entered in his ledger,

presumably on behalf of a one-legged customer, "For half of a pair of shoes. . . . 5/-".

As life became more settled the storekeeper extended the range of wares he had on his shelves, while in the larger centres of population some stores ceased to be general, specialized on one or two lines of goods, and began something like a mail order business for country customers. By 1840 the country merchant was handling comforts and even luxuries as well as necessaries; he sold West Indian spirits and sugar, tea, snuff, more expensive dress goods of muslin, calico or silk, crockery, glass ware, good shoes for Sunday wear, and perhaps even violins or flutes. The age of deerskin shirts and homespun was passing away. In 1835 there were nearly a thousand stores in Upper Canada, of which 900 were outside Toronto.

The settler paid for his goods with goods. The storekeeper took almost anything that he could sell either in the local market, or, through the merchants of Kingston, York, Montreal, and Quebec, to consumers in other parts of Canada or abroad. Potash or wood ash was one of the chief articles with which the farmer made payment; wheat, corn, meat, butter, tobacco, lumber, skins, all played their part in reducing the debit balance at the store. In the same way the farmer paid his bill to the blacksmith when smith's shops were set up; we know of one settler who paid for shoeing, repairs, and andirons by delivering at various times to the smithy many pounds of "veel", beef, and butter, fourpence in cash, and still owed nearly a sovereign.

We saw that Squire Bell employed some  
**Early** people making articles which formerly had  
**Industries** been made by the family itself, and that  
 some shopkeepers had potash plants.  
 These instances are indications of the rise of specialized

little industries which relieved the farmer of a few of his many tasks. First there came the grist-mill and the saw-mill; both were being established in Upper Canada before 1800, for instance at Niagara and Napanee in 1786, and near Kingston four years earlier. By 1836 there were about 600 grist-mills and nearly 1,000 saw-mills scattered over the settled parts of the Province.

The mill was built alongside some rapid or waterfall, and often became the nucleus of a village or town. Near it lived the mill employees; to it came the farmers from the scattered countryside, with their logs or sacks of grain; the general store grew up to serve those who came to the mill, and the storekeeper became the early postmaster. A church was built, and an inn; a brewery or distillery, a potash factory, a tannery, a blacksmith's shop which might grow into a stove foundry, implement works, carriage or wagon factory; a soap or candle works, a carding mill to which wool could be brought to be prepared for the domestic loom; a fulling mill, a cobbler's shop, and later a tailor's or dressmaker's establishment. So the farmer relied more and more on others to do special jobs for him; he could give more of his time to the central task of looking after his farm, and make his frequent trips for business, pleasure, and gossip to the mill, the store, the still, and the blacksmith's shop.

By 1835 there were one or two instances of still more ambitious industries. Down at Three Rivers, about halfway between Montreal and Quebec, the St. Maurice iron-works had been famous long before the conquest. The local iron ore was remarkably free from impurities; it was smelted with charcoal, and gave a very fine iron which was considered equal to the best Swedish metal. After 1763 the industry was carried on by English enterprise, and as settlement advanced a growing market was found, for bar iron for the blacksmith, for potash,

soap, or sugar kettles, for kitchen utensils and house stoves. The settler felt that he was at last reaching a stage of comfort when he could afford a St. Maurice stove; it was usually the most expensive single article of furniture in his house, and its installation would be a fit occasion for a celebration.

In Upper Canada rich iron ore was found on the surface, north of the Bay of Quinte, in Hastings County. In 1823 a smelter and foundry was set up at Marmora, with "a steam engine driving powerful lathes"; but as there was no waterway on which the products could be carried cheaply to market, the works were never so successful as those at Three Rivers. At other places small iron or brass foundries had been set up by 1836, as well as paper, salt, plaster, or oil works; iron and copper were being mined east of Gananoque, and lead had been found in the Niagara area. But all these ventures were on a small scale, and the chief industries centred on the lumber mill, the grist mill, and the potash factory.

Canada's first transportation problem was that of making the best possible use of the waters of the St. Lawrence drainage area. The population was settled on or near the water's edge, and while roads were necessary, long distance carriage and contact



Summer travel by Canadian stage-coaches



Winter travel by Canadian stage-coach



The Governor of the Red River travelling by water, 1824

with outside markets depended on the use of the Lakes and the big river. That water-way from the head of Lake Superior to the Atlantic was a magnificent gift of nature, but it was the sort of gift horse that had to be looked in the mouth. For in its natural condition its value was reduced by two disabilities. One of these, the winter ice, could not be overcome, but the other could, by building canals and locks. Between the level of Lake Superior and that of Lake Huron was a fall, at the Sault Ste. Marie rapids, of 20 feet ; the step down from Lake Erie to Lake Ontario at Niagara was about 330 feet, and at the seven rapids on the St. Lawrence the river fell about 220 feet.

So long as transportation was solely a matter of handling furs and fur traders' supplies in canoes, these obstacles to navigation could be overcome by the portage, and the lumber of the Ottawa Valley or Upper Canada was none the worse for having shot the rapids. But by 1825 many factors were compelling Canada to find something better than the portage. Immigrants wanted an easier method of getting to their new home; Upper Canada wanted a safe channel down which it could send its potash, grain, flour, and trimmed timber, and up which it could import its supplies more easily, while during the war of 1812 British troops found that it was uncomfortable to have to communicate with Upper Canada along a river broken with rapids and bounded on one side by enemy territory. Further, Montreal was already dreaming of the day when she would be the great port for the millions who were flocking into the states south of the lakes. Geographically she was nearer than New York to Europe, and by making measurements on the map she discovered that goods which went from Buffalo to Europe via Montreal would travel 280 miles less than if they went through New York ; goods from Oswego would save 360 miles by

coming down the St. Lawrence. She even hoped that goods might come to Montreal on their way from Europe to New Orleans.

But if these dreams were to come true, Montreal must strive hard to make them do so. The United States had constructed the Erie Canal, along which cargoes went from the Lake Erie region and points further west to New York, while branch canals attracted trade from Lake Ontario shores. Settlement in Upper Canada was being made chiefly beyond Toronto, and from this region Buffalo, the Erie route, and the new American railways were accessible. Montreal must act quickly and courageously if she was to take any advantage of her position.

Another cause of the need for better water communication was the coming of the steamship. Canada was slow in building railroads, but quick in building steam vessels. In 1807 Fulton made his famous trip in the *Clermont*. Two years later John Molson and two other Montreal residents copied him. Their boat was called the *Accommodation*; she was only 72 feet long, and her Canadian-built engine was rated at 6 H.P. In 1809 she started on her first voyage down to Quebec, and as she passed the settlements at dusk, with no sails spread, travelling east against a west wind, and with a continuous stream of sparks pouring out of her funnel, she put terror into the heart of the habitant. The river had no lights or buoys, so she anchored at night, and took three days to travel the 180 miles. At that time it often took 15 or 16 days for ordinary vessels to do this trip. Passengers and freight traffic were sought for, but the experiment was a financial failure, and Molson determined to get a better boat and engine. He therefore went to England, bought a 28 H.P. engine from Boulton and Watt, and in 1811 the *Swiftsure*, 120 feet long and 24 feet wide, was launched. During



the war of 1812 this vessel was a troopship on the lower river, and was soon joined by two still better boats.

Meanwhile steam was being adopted for lake traffic in Upper Canada. The building of sloops and schooners was begun at an early date on the shore of the lake, and the first steamship was launched in 1816 at Bath, then a promising harbour and shipbuilding centre a few miles west of Kingston. This vessel, the *Frontenac*, was 170 feet long, and cost nearly \$100,000. The *Frontenac* and her sister ship, launched in 1818, plied regularly along the lake shore, and as far down the river as Prescott, but at this point further progress was stopped by the first of the rapids.

*Canals.* The growth of steamship traffic gave added force to the demand that the obstacles to navigation be overcome by the construction of canals. The French had toyed with the idea, and in 1700 an effort had been made to cut a short canal; but the first canal-builder ruined himself financially, and the work was not completed. When the British took over the country the canal boom was beginning in England, and soon four shallow "cuts" were made round some rapids, in order to make a way for the flat-bottomed boats or scows that were the usual river craft about 1800. But only after the War of 1812 was serious work undertaken.

By 1850 the whole series of rapids on the St. Lawrence could be avoided. A boat going from Montreal to Kingston would pass through 40 miles of canal, and be lifted about 200 feet by passing through 27 locks. It could then go west and "climb Niagara" through the Welland Canal, which had been opened in 1829. Here was a veritable staircase, for 26 locks were needed to raise the vessel 330 feet. In 1855 the United States opened a canal at the "Soo" on the American side of the rapids, but the Dominion government did not

authorize the construction of a canal on the Canadian side till 1887.

There was an alternative route from Montreal to Upper Canada. This was up the Ottawa, and then along the Rideau Canal from Ottawa to Kingston. The British government began to construct this Canal in 1826, purely as an aid to the defence of the country. Its purpose was to "enable the government to forward stores, provisions, ammunition and troops to the upper part of the province without the risk of capture or being engaged in time of war in petty hostilities with the Americans on the St. Lawrence"; and since it was thought that only small gun-boats would be needed for this work, the locks, which determined the size of ship that could use the canal, were fixed at 100 feet by 20 feet. But Colonel By, the engineer in charge, was so convinced that this route would be valuable commercially that he urged the British authorities to make the locks bigger, and to finish the Welland Canal on the same scale. As to the extra cost, that was a trifle. "Whether the works I have now the honour of projecting cost one or two million (pounds), it is of no moment" said By, compared with the immense volume of trade that would flow through the bigger Welland and Rideau Canals.

By's optimism was liberally sprinkled with cold water by the authorities in Britain, but he finally won a partial victory, for the Rideau Locks were made to admit vessels much larger than gunboats. The canal took six years to finish; it cost about a million pounds, but although it was used for a time by immigrants and traders, it failed to attract that large volume of trade of which By had dreamed. In this respect it fared little worse than the St. Lawrence canals. The competition of Buffalo, Oswego, and the Erie Canal, and the coming of railways reduced the value of the canals. Not till the Canadian prairies began to send large quantities

of wheat eastward did the long waterway from the Lakes to the Atlantic become as important in fact as it had seemed in the fancies of the twenties and thirties.

*The Post.*—Between 1800 and 1850 Canada obtained other aids to commercial life. By 1834 she had 48 newspapers, but none of them was a daily. The post office slowly gave a better service; in 1800 there were only 26 post offices open, but in 1834 there were over 230 in Upper and Lower Canada. A rural district was fortunate if it had a delivery once a week; even between Montreal and Quebec there were only four posts a week. The delivery of a single sheet letter cost 18 cents between Montreal and Quebec, and 59 cents between Montreal and Bytown (Ottawa). Two sheets counted as two letters, and no envelopes were used. People therefore got the largest possible piece of paper available, and having filled it with writing from side to side, they often turned it sideways and re-covered the space with writing running from top to bottom. Yet, in spite of high cost and poor service, settlers were so anxious to get their mail that one of the earliest acts of any populated district was to petition the authorities for a post office in their village. Of one postmaster it is recorded (1850) that he filled his plug hat with letters on Sunday and distributed them at church in order to save the settlers a long walk to his office. As mail-coach services were established on the main roads the delivery became more frequent, but not till the coming of the railroad and the reduction of postage rates did any part of the country get an efficient service.

The colonies slowly secured a satisfactory  
**Currency and Credit** currency and adequate banking facilities. Barter was the basis of most early trade; the Indians brought their furs to the white man's posts or villages and traded them for blankets,

powder, or fire-water; the farmer bartered with the local merchant, smith, or mill-owner, and workmen clearing land were paid largely with salt pork. But even before the country had an adequate supply of currency, the value of goods was expressed in terms of money, and the storekeepers did much to develop the "making" of paper credit money. For instance, if Farmer Smith sold potash worth £10 to Squire Bell, he might get in return a receipt on which the Squire acknowledged his indebtedness. If Smith wished he could then hand over this receipt to some creditor, who would thus be able to get £10, or its value in goods, from the storekeeper. Or Smith might give his creditor a promissory note or I.O.U. for, say, £10; the storekeeper would pay this sum if the holder of the note presented it to him, and debit Smith's account with that amount. But whatever their form, paper promises or orders to pay were the general medium of exchange in early days.

Metalllic money was scarce during the early nineteenth century. There was no Canadian mint till 1908, and the country had to depend on the coins brought in by settlers or traders, or occasionally by the government. At the ports the coins that changed hands were an amazing jumble, drawn from almost all the countries on both Atlantic coasts. There was the British guinea, the American eagle, the Portuguese Johannes and moidore, the Spanish milled doubloon, and the French louis d'or and pistole, all made of gold, while the silver coins included the British crown and shilling, the Spanish and American dollar, and the French crown, six-franc or five-franc piece. But the dollar was already the least scarce coin, and while an attempt was made for a time to express values in terms of pounds and shillings, the decimal system, with the dollar as the unit, was formally adopted in 1858.

In the thirties it was estimated that one-third the coins in the country had become depreciated by wear

and abuse, and if any payment above £20 was made in gold, either party could require that the coins be weighed and  $2\frac{1}{4}$ d. deducted for each grain that the money was short-weight. In Upper Canada gold and silver coins were not legal tender if they were one-twenty-fifth less than full weight. Some governments issued notes which they would not redeem in metal, and while these notes were legal tender inside the province that had issued them, they were not accepted in neighbouring provinces except at a big discount ; some pound notes were once sold by auction for eleven shillings.

*Banking.*—Canada had no bank till 1817. In that year the Bank of Montreal was founded, and almost immediately afterwards other banks were set up, in Quebec, Montreal, Kingston and Toronto. The Bank of Upper Canada was set up under the wing of the government, which supplied a quarter of the capital and nominated a quarter of the directors. In 1836 21 banks were at work in the various provinces, with a total capital of over \$6,000,000. Some of them were pursuing already that practice of establishing branches or agencies which has been one of the chief differences between the banking systems of Canada and the United States. The Commercial Bank of Kingston had 16 branches, the Bank of Upper Canada, twelve. Five million dollars worth of bank notes were in circulation, and although Canada never had an orgy of "wild cat" banking such as the United States had, there were times when the amount of credit granted was dangerously large. Hence when in 1836 a commercial crisis hit New York and the banks there were unable to redeem their notes in specie, the Canadian banking system was shaken to its foundations. The Bank of Montreal suspended specie payment ; the legislature of Upper Canada permitted banks to refuse to honour their notes, and forbade any new banks to

PAYABLE AT THE BANK OF CANADA IN MONTREAL.



TWO DOLLARS

To the President  
of the **BANK of UPPER CANADA** promise to  
pay the bearer **TWO Dollars** on demand out of  
the Joint Funds of the Association and no other

B<sup>o</sup> No. 1943

Montreal, Canada 1820

*[Signature]* Cash



*[Signature]* Pres

An early note of the Bank of Upper Canada, 1820.

issue notes unless they got parliamentary permission. Thus Canada experienced her first serious modern crisis.

During subsequent years, legislative steps were taken towards the system of strictly regulated banking that we have to-day. In 1841, when the two Canadas became united, uniform banking control was imposed ; in 1850 banks were forbidden to issue notes unless they had been incorporated by a special Act of Parliament or had obtained a charter ; periodical statistics were demanded from each bank, and in order to emphasize the need for cautious banking practice it was decreed that shareholders should be liable for *double* the amount of their share capital if the bank become insolvent.

Canada's commercial progress would have been very slow during the first half of the 19th century but for the preference given by Britain to many Canadian products, especially lumber and wheat. From 1721 to 1809 Britain admitted Canadian lumber free of duty, but charged a heavy duty on Baltic woods. This preference compensated in part for the heavier freights Canadian exporters had to pay, and when, during the Napoleonic War, Baltic lumber became costly and hard to get, Britain turned more and more to Canada for supplies. In 1809 the need for revenue compelled her to put duties on the Canadian article, but those on Baltic wood were also increased. From 1821 to 1840 Canadian timber paid a duty of only 10/- a load, while Baltic timber paid 55/-. On some dressed timbers the preference was even greater, for the foreign wood might pay eight to twelve times as much duty as did the Canadian. Thanks to this preference, and to the fact that Canada had almost a monopoly of the white pine needed in building the new industrial cities of Britain,

colonial timber supplied in 1840 about three-quarters of the British demand. It would be hard to say how much of this predominance was preference and how much was pine ; but the Canadian lumber and shipping interests regarded the tariff concessions as the foundation stone of their prosperity, and "saw nothing but blue ruin facing them should the timber duties be interfered with" (Shortt).

The preference on wheat was complicated but substantial. In 1825 Huskisson amended the British Corn Law so as to admit Canadian grain at a duty of 5/- a quarter if British wheat was selling at less than 67/- ; but if the British price was over 67/-, the Canadian import was charged only sixpence. Foreign grain was taxed much more heavily ; Canadian wheat was admitted at a duty which might be only one-quarter that paid by its foreign rival.

This concession was of great value to the farmers of Upper Canada and to the millers, merchants, and shippers of both provinces. But if the preference could be made still larger by wiping out the 5/- duty, then the grain-grower would be happier still. And if the miller could do something more to attract wheat from the United States to his mills, then the St. Lawrence canals would be crowded with grain ships and his mill would never be idle. It was good news therefore that came from London in 1843 ; the British Parliament had decided that Canadian wheat and flour were to be admitted at the merely nominal duty of 1/- a quarter, and that flour made in Canada from United States wheat was to be admitted as Canadian.

In *Canada* these new terms were interpreted as revealing a desire to encourage the settler, to foster the millers, and to bring ships through the canals. The canals were therefore pushed on with vigorously till



they were completed with larger and deeper locks. Upper Canadian farmers increased their wheat acreage, and Montreal millers expanded their plants to cope with the coming flood of American grain.

In *England* those new terms had a very different meaning. They were one more step toward the sweeping away of Corn Laws, preferences, navigation laws, and all else that survived of England's patchwork Mercantilism. Free traders had little sympathy with any producer who could not stand up without the aid of such props as preference. Two-thirds of the Canadian lumber trade, said McCulloch, a prominent free trader, is "forced and factitious"; it is bad for England since it makes her pay more for her timber than she otherwise would; it is equally bad for Canada, for "we withdraw the attention of its inhabitants from the most profitable employment they can carry on, that is from the cultivation of the soil, and make them waste their energies in comparatively disadvantageous pursuits. . . . Canada is not, and never has been, of any considerable advantage to England. (If we abolish the preference) we question whether she would be found to possess a single article that could be advantageously exported to this country, or that we could not buy cheaper and better elsewhere". Why, therefore, spend \$7,000,000 a year there in defence, when there is no equivalent advantage, and when there is "in the mind of every man of sense in the Empire" a "full conviction . . . that at no very distant period Canada will be independent or an integral portion of the United States?"

Perhaps Canadians had been blind to the growing success of the Free Trade cause, for the repeal of the Corn Laws in 1846 and the whittling away of the preference on timber, furs, potash, etc., during later years, filled them with dismay and fierce resentment. The Parliament of the united provinces sent an address

to Queen Victoria, in which it hinted that if the colony was no longer to have its subsidies and preferences it must consider whether it was worth while stopping in the British Empire. The Montreal commercial interests, "which under the British preference had lived upon the traffic in United States produce passing through Canada to qualify for the British market" (Shortt) showed their anger in the famous "Annexation Manifesto" of 1849, in which they declared that the only remedy was "a friendly and peaceful separation from British connection and a union upon equitable terms with the great North American confederacy of sovereign states."

Perhaps those who signed this declaration did not mean all they said ; as one of them pleaded many years later, "there was not a man who signed that Manifesto (apart from a few Americans) who had any more serious idea of seeking annexation than a petulant child who strikes his nurse has of deliberately murdering her". At any rate, the nurse did not feel the blow or abandon her policy, and annexation did not happen. But three other things did—the beginning of a protective tariff policy, the arranging of the reciprocity agreement with the United States, and the movement towards Confederation.

*The Tariff*—Until the eighteen-forties the tariff on goods entering Canada was made or approved by the British government, and was framed to favour British wares and ships. Goods from the Mother country paid low duties, such as  $2\frac{1}{2}\%$ , or were admitted free, but foreign produce faced much heavier levies, as high as 20 or 30%. Some goods were admitted free if they came in British ships, even from foreign parts ; some tropical products were free if they came from British warehouses in British ships. But after 1846 the provincial legislatures gained control over customs, and

by 1859 had asserted their right to shape a tariff without any interference from London.

By that date the need for revenue and the desire to protect local manufactures was forcing the Parliament of United Canada to make the tariff wall higher. The canals had been costly and were not paying interest on the capital outlay ; roads and other public works had been constructed with borrowed money, and the interest bill was mounting. Manufactures were struggling into being, fed by the demand for goods for the canals, the flour mills, the shipyards, the new railroads, and the farm. In the small towns of Upper Canada these factories met a local demand, and when the railroad came they would be able to put their goods on to a wider market. In Montreal a little industrial revolution took place when water, diverted from the Lachine rapids for the enlarged canal, was made available for driving machinery. Cheap power and cheap labour were at hand, so factories of many kinds were set up. The chief were the flour-mills, one of which was five storeys high, had twelve pairs of grinding stones, produced 800 barrels of flour daily, and employed 200 men. Around the locks there were other plants making engines and boilers, paint, cotton goods and woollens, tools, rope, tobacco, agricultural implements, paper, nails, fire engines and india-rubber goods, while in Montreal itself clothing works, boot and shoe factories, and large printeries were to be found by 1856.

Some of these works dated back to the early part of the century, but had moved and expanded their plants when the Lachine water-power was made available. Some of them were quite large in the scale of their operations, as for instance the rubber factory which made 1,000 pairs of rubbers or rubber shoes daily, or the sugar refinery, seven storeys high, which produced 3,000 barrels of sugar a month ; some boasted about the high

quality of their wares, as for example the woollen mill which won 15 first or second class medals at the Paris exhibition in 1855, or the fire engine factory which won a gold medal at that exhibition and received orders from Europe for its engines. Some were up-to-date, as for instance the shirt factory which employed 300 women and used some of the new-fangled sewing machines from the United States, or the marine engineering works which was proclaiming the superiority of the new screw propeller over the old paddle-wheel.

Few of these industries could hope to expand by finding a foreign market. Their wares were dear in comparison with imported products, so they must be assured of the home market by the imposition of heavy duties on goods from outside. The protectionist cause made little headway, however, until late in the fifties, when depression in the United States and in Britain cut down the demand for Canadian products as well as the supply of capital available for railroads and public works. Faced with a shrunken revenue and swollen interest bills, the provincial government was driven to get more money by raising the tariff. Some duties were fixed as high as 20% and therefore looked protective, so the British government read Canada a lecture on the blessings of Free Trade as a protest against what seemed not merely anti-British but also anti-common-sense. But Galt, the Finance Minister of the day (1859), retorted that a self-governing colony must be allowed to frame its tariff in accordance with what it thought best.

**Reciprocity** The question of reciprocity with the United States was first raised in the forties, and from then till 1911 it was rarely for long off the Canadian political stage. The central idea of reciprocity was simple and attractive. Here were two

neighbours, speaking the same tongue, and enjoying much personal, social, and commercial intercourse. Each could help the other in various ways. Was it not therefore commonsense and neighbourliness that in framing their commercial policy they should be more friendly to each other than they were toward distant foreigners ?

But reciprocity was a bargain, and each party must get some benefit from it. What had Canada to offer, and what did she want in return ? She offered two things. The first was an abundance of fish in Canadian coastal waters. By international law United States fishermen could not fish within three miles of the Canadian coast, for that three-mile strip of water belonged to the country owning the coast. But by 1850 the United States coastal waters had been almost emptied of fish, and Canada's rich fisheries tempted the fleets from the south. Canada could therefore say, "We will let you come and catch our fish if you will do something for us in return."

The second bait was the St. Lawrence route, with its opportunities for cheap water carriage. The canals and the whole of the Gulf were inside the Canadian frontier, and Montreal believed that, if adequate inducement was offered, a large stream of trade would at last come from the Middle West. Montreal had been making big improvements in its harbour facilities. In the twenties ships had anchored on the margin of the river ; there were no wharves, and the "ragged and muddy haven" was fringed by the "clayey and generally filthy bank of the city". But thirty years had witnessed a great change, and a United States report in the fifties said the quays of Montreal were unsurpassed by those of any city in America ; the limestone which was plentiful around the city had been brought into use, and the long string of locks and wharves stretching eastward

from the Lachine canal presented "for several miles a display of continuous masonry which has few parallels."

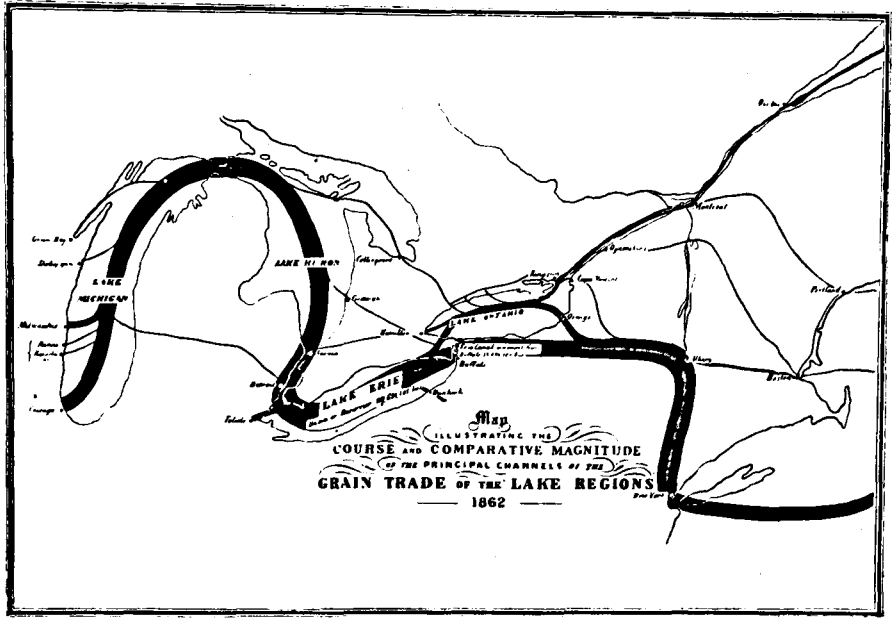
To these wharves an occasional ocean steamer came, but most of the Atlantic trade was carried on in sailing vessels. In 1856 however the Montreal Ocean Steamship Co., put four iron steamers on the run to Liverpool, and soon a regular weekly service was in operation. From Quebec to Liverpool was an average journey of less than eleven days, which was about one-third the time taken by the old sailing vessels, and two days less than the run at that period between New York and Liverpool. Here was another proof that the best way from the centre of the continent to Europe lay down the St. Lawrence, and that the United States would benefit immensely if Canada gave her easier terms for the use of that route.

What did Canada expect in return? (1) More traffic down the St. Lawrence, and therefore more revenue in tolls and more trade for Montreal. (2) Easier access to the United States market. The two countries produced the same kind of primary products, and in the forties each of them had put duties on imports from the other. Canada in 1843 levied 75 cents a quarter on American wheat; in 1848 the United States imposed a duty of two dollars a quarter on Canadian wheat and raised the tariff on lumber. These blows, coming on top of those from the British free traders, seemed to spell complete disaster; something must be done.

So there was begun a series of prolonged and exasperating negotiations between the two governments. There were "pilgrimages to Washington", there was angry talk of retaliation when the United States seemed languid or hostile, but finally a Reciprocity Treaty was signed in 1854. The Treaty dealt with three topics: (1) United States fishermen could fish in Canadian waters and come ashore to dry their nets or cure their

catch. Canadian fishermen in return could go down the American coast as far as latitude 36°N., but as there were few fish down there, Canada gained little, the United States much. (2) Canada granted the use of the St. Lawrence and the canals to American vessels on the same terms as were charged to Canadian vessels ; in return, Canadian vessels were free to use Lake Michigan. (3) A large number of goods, including nearly all the products of the farm, forest, mine, or sea, were placed on the "free list", and could be sent by either country to the other without paying duty. The Treaty was to remain in force for ten years and could then be terminated by either party.

Reciprocity came ; so did prosperity, and in some measure the first was the cause of the second. The Maritimes benefitted most, for New England was now an open market for their coal, lumber, and fish. At many points along the international boundary, farm and forest products passed freely across as if no border existed, and people bought and sold where they could gain the greatest advantage. Canadians turned to American tobacco in place of the local product, and the cultivation of tobacco leaf was almost abandoned in Ontario. Canadian farmers built up a big production of barley for the breweries of the United States or wool for the Massachusetts mills. Canada also took advantage of the "free bonding" facilities established in 1846, by which goods going to or from Canada could pass through the United States in bond, *i.e.*, without paying any duty. Toronto profited largely by this growth of trade with and through the northern States, and the Welland Canal was used much by American boats. But the attempt to bring the trade of the Middle West down the St. Lawrence failed almost entirely, and Montreal soon reached the conclusion





that reciprocity was of little use to it. Even the abolition of all tolls on the canals failed to bring the desired result.

But prosperity was due to other factors as well. The Crimean War (1854-6) kept Russian supplies of wheat and timber out of Western Europe, and gave North American producers a good market at high prices. Further, both Canada and the United States were busy building railways; consequently much money was spent and big demands grew up for food for labourers and horses, structural materials, and certain manufactured goods. Then, during the Civil War, America bought so much Canadian produce that for a time Canada exported southward more than she imported from her neighbour.

In 1866 the United States terminated the reciprocity agreement, partly because some Americans said that Canada was getting more benefit than they were, partly because some Canadian tariff increases were said to be against the spirit of the treaty, partly because it was thought by some that Canada would plead for annexation if reciprocity was withdrawn, but chiefly because the North was angry at the apparent sympathy of Great Britain with the Southern cause. It was hard to let the American open market go, and vigorous but fruitless attempts were made to persuade Washington to change its mind. Canada therefore began to look increasingly inward rather than outward, and to seek salvation by protecting her industries in a market that now, thanks to Confederation, stretched, on the map, from the Atlantic to the Pacific.

## CHAPTER IX.

### FROM CONFEDERATION TO THE AWAKENING OF THE WEST

*Confederation and The Railways.* The story of Confederation has many aspects—racial, political, strategic, and personal, as well as economic. The economic aspect was possibly the least important, but when the British preferences were lost, and, later, when reciprocity was coming to an end, some people believed that compensation would be secured if all the provinces were made into one free trade market, and if commerce between the Maritimes and the inland provinces was thereby fostered. On the other hand some people, especially in the Maritimes, opposed Confederation because they saw little advantage to be gained in markets that were so far away. For they were still far away as the crow flies, and farther away as human beings had to travel. The sea journey from Halifax to Quebec was so long, and was so blocked by ice in winter, that no adequate shipping service had been established; the *Royal William*, which had been built in 1831 for that route, had not paid its way and had to be sold, when it was less than two years old, to satisfy a mortgage. The long land trip, if taken through Canadian territory, was so roundabout and through such inhospitable country that it did not seem worth while to make a road or build a railway. In 1850 the quickest way from Montreal to Nova Scotia was still through Portland, Maine.

But if Confederation came largely through the pressure of political and international difficulties, many economic bargains had to be made before union was accepted as desirable. Those bargains chiefly concerned railroads,

so let us turn to the development of the Canadian railroad system.

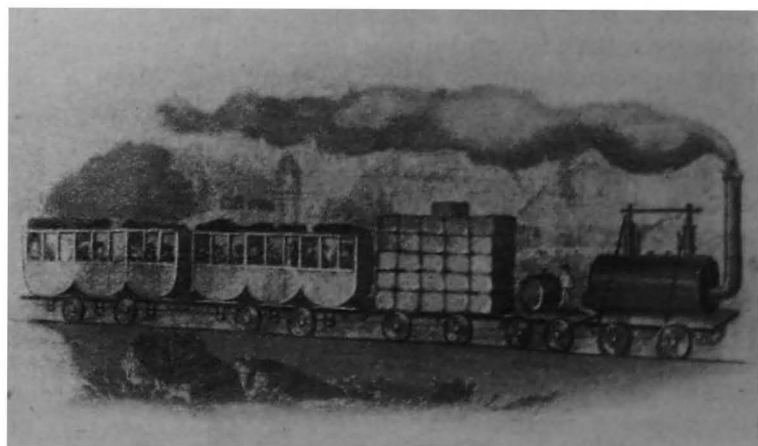
Many motives influenced the construction of railroads in Canada. (1) The coal mining company in Nova Scotia copied British examples in laying tracks between its pit-heads and the wharves, and gave Canada its first railroad. But Montreal thought of railways as an alternative to canals in solving the problem of portage. Hence some early lines were portage railroads. (2) The railway offered an escape from the ice-bound St. Lawrence. If Montreal could get access to an ice-free port, whether in the Maritimes or in the United States, she would not have to shut down completely her foreign trade during the winter months. (3) A railroad would give better winter and summer communication with the interior, link up Toronto and Montreal, and thus put Montreal at a smaller disadvantage in its competition with the United States for the carrying trade between Upper Canada and the coast. (4) Railroads would open up settlement, make easier the movement of people and produce in districts which had no good water communications; they were an indispensable prelude to the development of the prairies. (5) A trans-continental line would be a vital link in the "all-red route" between Britain and the Orient or Antipodes. The 16th century dream of a westward route to India and China could at last come true. (6) Railroad union alone could make the political union achieved in 1867 a fact. (7) The rebellion in 1837 and the fear of invasion during the Civil War emphasised the need for facilities for the quick movement of troops and supplies. (8) The progress of settlement and production in the United States, and the "pull" exerted on Canadian people and produce by the American railroads after 1830 compelled Canadians once more to realise that they must do as

their neighbours were doing or be left hopelessly behind in the development of their resources and trade.

Once Canada began to feel the need for railroads, the question arose "Where is the money to come from?" Some people favoured leaving construction and ownership to private enterprise, as in England, and some lines were built on that basis. But except where a large and profitable trade was assured, capitalists were unwilling to take all the cost and risk on their own shoulders; a line in a new country was much less likely to give an adequate return to capital than one built to serve existing centres of population. Besides, there was often a big difference between the estimated and the actual cost of making a railroad, and frequently companies exhausted their funds long before the track was ready for use. Some public men urged government construction and ownership; let the state borrow the money and build the line itself, and perhaps the British government would give a subsidy if the track had a military value. But Canada did not adopt this proposal. Instead, she gave aid to companies; sometimes she contributed money, sometimes she gave land, and sometimes she guaranteed a certain rate of interest on the bonds of the railroad company. Sometimes the aid came from the Dominion government, sometimes from the provincial authorities, and at times municipalities added their mite if they thought a railroad would bring prosperity to their community.

The first railroad, apart from that at the Nova Scotia mines, was essentially a portage line. The chief trade route from Montreal to New England was along the Richelieu River and Lake Champlain, but it was broken by the rapids at Chambly. Even in the late 18th century there were proposals for a canal round these rapids, but after 1820 the case for a railway was urged by many people in Montreal. Eventually a company was formed,

and in 1831 was given power to build the line. One locomotive, weighing only six tons, four passenger coaches, and ten freight cars were ordered from England, and in 1836 the first train made the journey of 16 miles from La Prairie, on the south bank of the St. Lawrence, to St. John's on the Richelieu, in an hour. On that festive occasion the engine pulled two coaches, containing the Governor and the chief guests ; each of the remaining

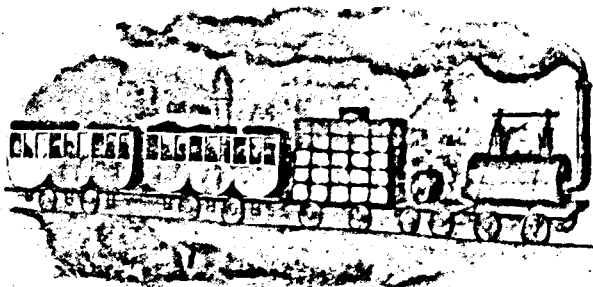


The Champlain & St. Lawrence Railroad, one of the first in Canada, 1837

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During the thirties and forties many other lines were planned, but few were actually built. In the Maritimes the need for a line connecting Halifax and Quebec was generally admitted, for military purposes if for nothing else ; but disputes about the route, along with the failure of the British government to give a subsidy, prevented anything from being done. From Montreal a short line

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was opened in 1847 to Lachine; here a steam ferry took engine and coaches a two-mile journey across the river and from the south side connection was soon made with lines that ran up to the border from the south or west. The proprietors of this land and river route were very proud of their "unequaled steam ferry", the speed and comfort of travel on the iron rails they had used, and the freedom from dust on a track ballasted with heavy gravel. In Upper Canada 17 lines were planned between 1832 and 1850, but only one of them was actually constructed. This one, the Queenston and Chippawa, was opened in 1839; it was only ten miles long—and used horses instead of engines. At the Sault Ste. Marie, a portage tramway was finished in 1850, on which horses pulled trucks round the rapids. All told, Canada had in 1850 only 66 miles of railway; the United States had ten thousand.

*The Grand Trunk.* But 1850 was the turning point, and by Confederation there were over 2,000 miles of railroad in use. The Maritimes now had some local service, tracks reached out from the St. Lawrence toward the ice-free ports of the south, a ribbon of rail ran from below Quebec right through to Lake Huron, while most settled districts in Ontario were near some trunk or branch track.

The giant of this first railroad boom was the Grand Trunk Railway, which by building some lines and absorbing or leasing others, had become in 1860 the largest single railroad unit in the world. In 1853 it connected Montreal with the ice-free port of Portland, Maine; in 1856 it ran trains between Montreal and Toronto, and two years later its western terminus had been extended to Sarnia. The Victoria Bridge across the St. Lawrence at Montreal was finished in 1859, and by 1860 the Grand Trunk had 1,100 miles of track

stretching from Portland and Riviere du Loup, east of Quebec, to Sarnia.

From this trunk road other companies built spur lines to Ottawa, Peterborough, Lindsay, and Collingwood ; but these tracks were eventually absorbed by the Grand Trunk, as were also lines running from Montreal to the United States border. Thus the Grand Trunk bestrode the settled areas of Quebec and Ontario, and by 1870 its western terminus was in Detroit. It did not precede settlement to any great extent, as did the C.P.R. later on ; there was already population and traffic in the regions to which it went, and it thus escaped many of the difficulties and the long wait for traffic that most pioneer lines had to contend with. In 1870 it was replacing iron rails with steel ones, running "Pullman's Palatial Sleeping Palaces" on its night trains and "Palace Drawingrooms" on its day trains. The system of "checking" baggage was already in vogue, but the time taken on long runs was about half as long again as that taken today. The high hopes of colossal profits held by the promoters of the line were not realised, and the still higher hopes that the railroad would bring Upper Canadian and mid-western produce to Montreal were as unfulfilled as had been those based on the canals. But it had helped to change the whole character of transportation along the St. Lawrence and Lake settlements ; the days of stage coaches, of weary journeys on corduroy roads, and of long cold sleigh-drives were ended ; travel between Upper and Lower Canada became easy, and the whole commercial life of the country began to move more quickly.

*The Intercolonial.* With Confederation the Canadian railroad story opens a new chapter—that of linking up the extremities with the centre. The Maritimes demanded rail connection with Quebec as part of the price of their entry into the federal union, and one of the



first tasks after Confederation was to satisfy them. The line was built by the Dominion government ; Sandford Fleming was the engineer in charge, and the route began at Riviere du Loup, the eastern terminus of the Grand Trunk. From that point it ran as far away from the Maine frontier as possible to Bay Chaleur and so to Moncton, St. John, Truro, and Halifax. When completed in 1876, it became, and has remained, an unprofitable property. For in its desire to keep away from the frontier, it went on the two sides of a right-angled triangle, instead of on the hypotenuse, and secured little local traffic on that long trail. The hypotenuse crossed a large patch of Maine, and so was out of the question as a route for a government line. Canada in its Inter-colonial had to make the best of a bad job and a bad frontier line.

The second railroad product of Confederation was a transcontinental line, for on that condition alone would British Columbia come in. But such a line would be useful in opening up the little-known prairie region, and to this task many Canadians had been giving thought since at least 1850. We must therefore now see what had been happening beyond Lake Superior before 1867.

**The Canadian West**      *The Fur Trade.* What had been happening can be briefly summarized. Over the Hudson Bay drainage area and in the valleys of the Rockies the fur trader was supreme. The Indians got the furs and brought them to his scattered trading posts, at which lived a few servants and settlers who ministered to his needs. The fur trader, or rather the Hudson's Bay Company, was king.

In Chapter IV., we saw the rivalry between the English and French traders. The French had been keen fighters and explorers, pushing down the Mississippi

and across the prairies and setting up posts at the heads of lakes, mouths or forks of rivers, or wherever they could intercept the natives. Between them and the men from Hudson Bay or from New England the commercial game had been fought with vigour so long as France held Canada. Forts, canoes, rifles, brandy, rum, all were weapons in a struggle spread over a battlefield reaching as far west as Calgary.

The Treaty of Utrecht established the British sway over the Bay region, and the Conquest stopped the French activities elsewhere. But the rivalry continued, with new antagonists. The New England traders became more vigorous under the leadership of J. J. Astor, and after the War of Independence Canadians were shut out of the trade south of the border. The Montreal interests continued their work under new leaders, many of whose names began with Mac, and eventually grouped themselves in the North West Company. In 1821 the North West and Hudson's Bay Companies united, after over thirty years of fierce competition, in which bullets and barter, alcohol and adventure, had been intermingled.

Of the two British rivals the North West Company seems to have been the more energetic. From its headquarters in Montreal, its men went out by river, lake, portage, and trail. According to a description written in 1784, there were over ninety portages between Montreal and the Lake of the Woods ; of these the most famous was the Grand Portage, which led from Lake Superior to the chain of rivers and lakes leading to the Lake of the Woods ; it was ten miles long, and the task of getting the annual load of goods and provisions across it took over a fortnight. The company at that time employed over 500 men ; half of them were stationed in the fur region, half were occupied in transporting goods from Montreal to the Grand Portage,

by way of the Ottawa and Lake Huron. The latter set out early in May in canoes of about four tons burden, navigated by eight or ten men. At Michilimackinac, (situate between Lakes Huron and Michigan), they took on a new stock of provisions, to carry them to the end of their journey and also to supply the men out west. By early July they had reached the Grand Portage, where they handed over the goods to the men who were to take them a thousand or more miles still further, in canoes of  $1\frac{1}{2}$  tons burden, to the trading posts of the fur country. The big canoes then made their way back, carrying the furs brought to the Portage; the men in the smaller canoes went west or north, getting food occasionally from natives as they passed, and hurrying to reach their winter quarters before the snow came. Once in those quarters "they are at ease, and commonly in plenty, which only can reconcile them to that manner of life and make them forget their sufferings in their Annual Voyage to and from the Grand Portage".

Already, in 1784, the Company was considering whether Lake Huron might not be reached more easily up the St. Lawrence and overland from the Bay of Quinte or "by the carrying place of Toronto"; it was talking about providing sets of rollers on which canoes could more easily be taken over portages, and was planning to put a vessel on Lake Superior in order to shorten the time taken to pass up and down that water. And one of its western traders, Alexander Mackenzie, was soon to make those historic trips which led him to the Arctic (1789) and the Pacific (1793).

Fifteen years before Mackenzie saw the Pacific, Captain Cook had discovered Vancouver Island (1778) and the furs his crew took home showed that valuable skins could be collected west of the Rockies as well as east of them. During the next fifty years therefore the Pacific coast and valleys became the hunting ground

of rival trading groups of many nationalities. Each group established its posts at favourable points, and tried to persuade the natives to trade with none but itself. Gradually things sorted themselves out; the North West and Hudson's Bay Companies amalgamated in 1821, and in 1825 established an outlet on the coast at Fort Vancouver; in 1818 the British and United States governments agreed that the region should be free and open to the traders of both countries; the Russian claims to sovereignty over all the coast north of 51° were abandoned, and comparative peace descended for a while on this new fur region.

*Early Western Settlements.* One effect of the competition between the rival traders had been the establishment of many new outposts. The Hudson's Bay Company at first had been content to set up a few forts at the mouths of rivers flowing into the Bay, to which it expected the Indians to come with their pelts; but when the French and then the Nor'Westers went out into the natives' country the Company had to do likewise. Hence by 1830 there were about 150 establishments between the Bay and the Pacific, linked together by a veritable network of trading routes. At the posts, trade was almost entirely by barter and on credit; Montreal or London sent out supplies, including food and such trade goods as mirrors, blankets, guns, beads, and rum, and got back furs. But since no company could hope to send all the food needed by its agents, the posts were encouraged to catch or produce for themselves whatever they could. Nay, more, a few settlers were induced to make their home at some of the more important centres, as for instance at Fort Vancouver, where French-Canadian servants of the Hudson's Bay Company were settled after 1825, and on the Red River, where Selkirk's mixture of Scotch, French-Canadians, and Swiss was planted after 1812. At almost

every post small-scale farming was begun, and the yield showed that the country was fertile enough for real settlement.

East of the Rockies settler and trader alike could easily obtain one kind of food. Bison were incredibly numerous; in early summer the herds moved north up the prairies and in late fall went back south, in a broad, black, living torrent. The Indians, and then the Red River settlers organised great hunts, which at times killed as many as two thousand animals in a single day. The hides were used as rugs or blankets, and during the Crimean War 20,000 buffalo robes were sent to keep the British troops warm. The flesh was used for meat or for making pemmican. Pemmican was almost as important a factor in the fur trade as the canoe. It was made by slicing, drying, and pounding lean meat into a flaky mass; fat was then melted and poured over the meat, and the mixture packed into a bag of buffalo hide. This concentrated food had many virtues as a ration; it was exceptionally high in food value, it kept indefinitely, and need not be cooked. It was therefore invaluable to the hunter, trapper, or any other kind of traveller, for a 90 lb. bag would feed a man for about sixty days.

At the London Exhibition of 1851, the Company showed several hundreds of animals in whose furs it dealt. The most common skins were those of the beaver and muskrat. The beaver pelt was one of the staple raw materials used by the hat-maker in the 18th and early 19th century. It consisted of two kinds of hair; one was long, stiff and glossy, the other short, thick-set, and soft. The former was pulled out and used for upholstery, the latter was shaved off and made into felt by processes which were described in 1756 as "ingenious, but very dirty." A beaver hat was the 18th century gentleman's normal headwear, but it

must have been very heavy and thick, for in 1800 about eight ounces of fur went into each hat. Gradually improved methods of manufacture reduced the amount of fur required, and the price of the finished article fell ; more people therefore wore hats instead of caps, and the demand for fur was stimulated. Meanwhile the high-grade furs found in the far north were wanted by the rich, and when ways were found of dyeing cheaper pelts to make them look like sable or something else than what they were, the wearing of fur winter coverings or trimmings spread among the less wealthy sections of the European population. So the products of the little-known northern areas went to London, the great fur market of the 19th century, and thence passed through the Company's auction room to almost every part of western Europe.

The Company did its work well, kept comparative peace in its wide domain, and treated the Indians with a measure of fairness rare in relations between whites and natives. But it stuck grimly to its privileges, prevented the few settlers under its rule from trading with outsiders, frowned on all settlement except such as was necessary to handle its trade or supply the wants of its traders, and refuted strongly the suggestion that Rupert's Land and beyond could be used as anything but a fur country. This attitude was natural, for "the fur trade and the Company's monopoly were irrevocably opposed to settlement" (Innis). If the settler came the fur-bearing animals and the bison would soon disappear. One Governor of the Company put the case forcibly when he said, "What ! Sequester our very tap root. Take away the fertile lands where our buffaloes feed ! Let in all kinds of people to squat and frighten away the fur-bearing animals they don't kill and hunt. Impossible !" The land from the Red River to the Rockies was painted as a "vast desert, in some places without

wood and water, exposed to the incursions of roving bands of Indians, and entirely destitute of any means of subsistence for emigrants". Telegraph lines would be destroyed by prairie fires or by the natives, settlers would be frozen to death, access to markets would be impossible, and so on.

*Unlocking the West.* But the pressure of events and ideas was against the Company. The British Government was growing alive to the possibility of settlement on both sides of the Rockies. In the United States, settlers were following in the tracks of the fur trader, up into Oregon in the early forties, and up into Minnesota a decade later. Gold discoveries in British Columbia followed those in California and deposited a new layer of population on the Pacific coast. It was felt by many that if the Company had fostered settlement on the Pacific coast the international boundary would have been drawn much south of 49° in 1846 ; the United States got the territory because her people had settled it while the Company had done nothing. Was something like this to happen again east of the mountains ? The Red River settlers pleaded for freedom to get furs and to trade where they wished, but could do neither in face of the Company's monopoly ; they appealed, but in vain, to the British government, they talked openly of seeking admission for their area into the United States ; they looked south to Minnesota, to Pembina and St. Paul, they surreptitiously traded across the border, and if Britain or Canada would not help them they vowed they would give their allegiance elsewhere.

Finally, the east was awakening to the problem of the west. Evidence was accumulating to show that the region was not a useless wilderness ; a few enthusiasts were talking of a road, a railway, or a telegraph wire from Halifax to the Pacific, and those who watched

the steady westward march of settlement in the neighbouring country were saying "The United States is expanding westward; why can't we?". All such talk came inevitably round to asking uncomfortable questions about the Company's monopoly and policy. Is it common sense, said one writer, "to expect that the task of civilizing and settling a country should be entrusted to those whose obvious interest it is to keep it wild and uncultivated?" "It is unpardonable", said George Brown in his *Toronto Globe*, "that civilisation should be excluded from half a continent . . . for the benefit of 232 shareholders".

The Company lost its power in two stages. In 1856-9 a parliament was established on Vancouver Island, British Columbia was made a separate colony, the Company was deprived of its ownership of Vancouver Island and of its trade monopoly, except in the Rupert's Land it had been granted in 1670. In 1869 the Company transferred all its claims to the Dominion. It retained the right to trade, but its monopoly vanished; it kept large areas of land round its posts, got \$1,500,000 in cash, and gained the right to claim, during the next fifty years, one-twentieth of any districts or townships opened for settlement in the fertile belt of the north-west.

The way at last was open for the settler, the railroad, and self-government. But twenty years had to elapse before the prairies showed signs of coming into their own, so before looking at the later history of the west, let us see what was happening down east during those twenty years.

**Eastern  
Canada  
after Con-  
federation**      The quarter-century following Confederation saw the older provinces make some progress, undergo some marked changes, and feel the effects of alternating booms and depressions. Canada's dependence on the British and United States markets was great then as now, for in 1868 over one-third her



total exports went to Great Britain and just over half to the United States. Hence her prosperity depended largely on that of these two countries, and on the policy they adopted towards her. When Great Britain was depressed in 1866-69, Canada felt the effect in diminished markets and the lack of capital for her public works, while the disappearance of reciprocity left her bewildered as to how trade would now fare. But Britain soon recovered, and the United States had a railroad-building boom, culminating in the first trans-continental and other lines west of the Mississippi. So from 1869-73 Canada wallowed in prosperity; the length of railroad mileage doubled during those years, banking business nearly doubled, exports increased by one-half, trade with the Maritimes became more important, and exports to the United States increased 40% in spite of the vanished reciprocity. Confederation seemed a highway to prosperity, and population approached the four million mark.

*The National Policy.* The crash came in 1873, partly from Europe, but chiefly from the United States, with the collapse of the railroad boom. This depression affected agriculture and manufactures alike; it lasted till nearly 1880, and left its mark on the tariff policy of the country, for it was largely responsible for the adoption of the "National Policy" by the Dominion parliament. Manufacturers gathered together to consider how they could defend their common interests, and set up organizations which eventually (1887) became the Canadian Manufacturers' Association of to-day. These organizations soon decided that only a protective tariff could safeguard and foster Canadian industries; so they set out to convert the public and the politicians to high protection. A few years before, such a campaign would have met with almost universal opposition and scorn, and a deputation of manufacturers that waited on the government at Ottawa was said to have been told that

the only way out of its difficulties was "to work harder and eat less". But when depression lay year after year like a dark cloud over the Dominion, the manufacturers' propaganda helped to win the day for Macdonald in 1878, and pave the way for a big increase and extension of the tariff in 1879.

Canada adopted the view that "only a higher tariff could open the factories and close the soup kitchens"; the farmers were almost as strong protectionists as the manufacturers, though they would have preferred free access to the United States markets and took the tariff as a second best; the Dominion treasury needed more money, and a higher tariff seemed an easy way of getting it, while throughout the country many who were not directly interested in agriculture or industry supported the National Policy because it was national. They wanted to see Canada strong, self-reliant, self-sufficing, and not merely a collection of axe-men, farmers, and customers for non-Canadian manufacturers. They wanted to keep Canadians from drifting across the border. Or they wanted to retaliate on the United States for its repudiation of reciprocity; "Reciprocity of trade or reciprocity of tariffs" was a popular cry in the 1878 election.

In the new tariff, the manufacturers got almost all they had asked for, namely, duties ranging from 25 to 35% on textiles, clothing, boots, or ordinary domestic equipment for which the demand was as large as the population. The farmer secured additional protection for his crops and livestock, and Nova Scotia was sheltered by a duty of 50c. a ton on imported coal. Some encouragement was given to the manufacture of pig iron, and high duties were imposed to shield the makers of iron and steel products, especially agricultural implements. No one seemed to be forgotten.

In later years slight alterations were made in the 1879 rates, and in 1883 the practice was begun of giving bounties on pig iron made in the Dominion. When the long Conservative rule at Ottawa ended in 1896, the National Policy did not end, for although the Liberal Party in opposition had denounced tariffs and bounties, and had stood on a Free Trade platform, it made no substantial alteration in the fiscal policy of the country except to introduce a system of preferential concessions to British goods. In substance therefore, the policy initiated in 1879 has stood ever since.

The passing of the new tariff was followed by a rapid recovery of business; prosperity reigned till 1883, after which year Canada, in common with most other countries, sank back into a prolonged depression, which lasted till about 1890, and had not completely vanished six years later. Was the prosperity due to the tariff? If so, was the depression also? It is always difficult to trace cause and effect in such matters, for what look like reason and result may be only coincidences. But it seems clear that the higher tariff did give a valuable stimulus to some industries, especially the textile and clothing trades, and the making of cotton piece goods eventually became a fairly large industry. Makers of agricultural implements, musical instruments and furniture, benefitted, as did also the grain-grower and miller, for the importation of wheat fell after 1880 to a small fraction of its former volume, while flour imports in 1880 were only one-third those of the two preceding years.

Other factors helped to bring that brief prosperity. The C.P.R. was being built, immigrants were coming into the country at the rate of 100,000 a year, and Canada's two best customers were flourishing. But the good times were short, and after 1883 came another long weary depression. Manufactures and agriculture made

little progress, and growth in the volume of production was partly counteracted by the decline in prices that took place all over the world during the eighties. Wheat, which had rarely sold in London before 1874 at less than \$1.70 a bushel, sank to below 70 cents. Under such circumstances it was too much to expect that there would be any great expansion on the prairies or anywhere else.

*The Period of Gloom.* The stagnation of the eighties and early nineties is well shown in the slow growth of population and the decline in the volume of immigration. Between 1881 and 1891 the population increased only 500,000, a smaller increase than that of any previous decade since 1850. Many immigrants returned home or went to the United States, and in addition many Canadian-born people left their native land for the south. In 1890 there were almost a million Canadian-born folk living in the United States, and the number was 260,000 greater than it had been in 1880. This exodus had, of course, been going on for a long time; but in view of the strenuous efforts to safeguard Canada for the Canadians the leakage began to look like a first class national disaster.

The depressions of the seventies and eighties were a testing time for the older parts of Canada, and under that test the rural life of Ontario and Quebec underwent many changes. Grain-growing became less important, and diversified farming more common; less was thought of crops, more of animal products. Butter and cheese factories were built after 1860, and dairy machinery was improved. The skim milk from the dairy was fed to hogs, a big production of bacon was developed, while corn was stored more systematically and fed to stock. Refrigerated cars and ships appeared, cattle boats were built, and an export trade in livestock and meat developed, some of the cattle coming from as far

west as the foothills of the Rockies, over the new C.P.R. track. Refrigeration opened a foreign market for fruit and helped to foster the orchard industry, especially in the Niagara area, British Columbia, and the Maritimes. The weight of provisions (meat, butter, cheese, and eggs) exported trebled between 1874 and 1896 but because of the fall in prices, the value only just more than doubled. The amount of cheese sent abroad grew seven-fold during that period, and a slice of Canadian cheese became a regular part of the British working-man's meal, especially at Christmas time.

In his struggle against adverse conditions and low prices, the farmer was compelled to take a more scientific view of his work. Crude happy-go-lucky methods, which had been satisfactory while prices were good or the soil held its original richness, had now to be abandoned; rules of thumb must be replaced by rules of the book, and every effort made to reduce costs of production, raise the quality and quantity of the product, and get better marketing methods. In making these efforts the farmer was helped by the governments, for they now began to regard agricultural research and education as one of their functions. In 1874 the Ontario government established the Agricultural College at Guelph; and in 1886 the Dominion government provided for the establishment of the experimental farm at Ottawa, with similar farms in the provinces; at first there were five of them, but to-day there are over thirty.

After 1896 prices began to recover, and the expansion of the west brought an era of prosperity to the whole country. To that period we can now turn and leave the gloom of the eighties behind.

## CHAPTER X.

### CANADA'S GROWING TIME

When the Dominion took charge of the west, Winnipeg had a population of about 200, the whole Red River settlement had grown to about 10,000 souls, most of them Indians or half-breeds, and there were at most 70,000 people dwelling between Ontario and British Columbia. Twenty years later the number had risen to only 250,000, but by 1911 it had shot up to 1,350,000, and by 1921 to nearly 2,000,000. Thus the growth at first was slow, and not till after 1891, or even the close of the century, did the great rush begin.

*Free and Cheap Land.* Two big factors contributed to the prairie boom. The first was free or cheap land. "We intend to be liberal both in money and land, as it is of importance to settle that country at once." So said Sir John Macdonald in 1872, and the liberality had to be at least as lavish as that of the United States. Canada could not hope to compete successfully with her neighbour for immigrants—or even keep her own sons from emigrating—unless she also could offer free land. At the same time, help must be given to the railways which were needed to open up the north-west, help in money and in land ; and it was hoped that much of the money could be obtained by selling land. So the land policy was a mixture of giving and selling. (a) The free homestead system was copied (1872) from the United States, except that the homesteader became owner after three years' occupation instead of five. The land was not entirely free, for a \$10 fee had to be paid when the settler made his initial claim at the land office. (b) The

Hudson's Bay Company received land under the agreement of 1869. (c) Railways were given large areas; the initial gift to the C.P.R. was 25,000,000 acres, and up to 1896 other companies received similar but smaller grants. After that date the Dominion government made no more land grants to railroads, but some of the provinces continued the practice, and by 1912 46,000,000 acres had been given to railroads.

Some land was sold by the government. (a) In 1874 the system of *pre-emption* was copied for a time from the United States. Under it a homesteader could claim a second quarter-section, and if he occupied and improved it he became owner at the end of three years, on payment of \$1 an acre. (b) Land was sold in the ordinary way to individuals and to colonisation companies. (c) Some "school lands" were sold by the government. In each township surveyed on the prairies, two sections out of the thirty-six were set aside for the endowment of education. They were to be sold by auction, and the money received was invested to provide an income for the maintenance of schools.

There were thus many kinds of land-owner to which the land-seeker could go. Homesteading seemed to be the cheapest approach, especially for the man with little capital; but often the free lands were far from rail or road, and conditions might be so hard that, according to some wit, the homesteader bet the government \$10 against 160 acres of land that he could "stick it" for three years on his holding. The railroad, on the other hand, had areas to sell alongside its track, so transportation facilities were good; it wanted to turn its land into money, and it needed settlers in order to have freight to carry. So it sold its lands on easy terms—a small deposit, low interest rates in the early years, and payment spread over ten, twenty, or thirty years. The man with little capital thus had a chance to get on to

his feet before he had to make large payments ; his initial funds could go largely in purchasing equipment, and he had a railroad nearby.

*The C.P.R.* That last consideration was perhaps most important of all, and was the second factor in making prairie settlement possible. In 1851 Howe made his famous prophecy that many in his audience would "live to hear the whistle of the steam engine in the passes of the Rocky Mountains, and to make the journey from Halifax to the Pacific in five or six days." Yet ten years later, troops for the Red River had to be sent *via* Hudson Bay, and when Wolseley's expedition went in 1870 by the Lake Superior route to quell the Red River Rising it had practically to make its own road as it progressed. At that time the normal way from Toronto to Fort Garry was through Detroit, Chicago (or Milwaukee) to St. Paul ; then by boat or stage across to the Red River, and so by boat to Fort Garry. There was another way, up Lake Superior and then along 350 miles of track, river and lake ; but this route was little used. Hence in 1870 the Red River people drew nearly three times as much of their imports from Pembina and the United States as they did from Canada and Britain. It was natural therefore that the first railroad to Winnipeg should come from the south, and in 1878 a railway was completed between St. Paul and Winnipeg.

Even before this date some Manitoba grain had found its way to markets outside the province, though it is difficult to discover when exactly the first shipment was made. One claim asserts that it was made in 1872 ; another record shows that a few hundred sacks of wheat went to England in 1874, while a third indicates that in 1876, during a serious failure of the spring wheat crop in Ontario, a Toronto seed merchant came and bought 800 bushels.



In 1880 the C.P.R. contract was signed. The government gave 25,000,000 acres of land, \$25,000,000, and fragments of line which had already been constructed. Further, it agreed that for twenty years it would not allow any rival line to be built south of the C.P.R. in the west. In return the C.P.R. was, within ten years, to build a line from Lake Nipissing round the north of the lakes to the Pacific, and presumably to develop new routes or use existing railroads from its eastern terminus to the Atlantic.

In 1885 the last spike was driven. As early as 1883 the line between Winnipeg and Lake Superior was finished and trains were running nearly 900 miles westward from Winnipeg. Connections with the east coast were soon made, and in 1888 a line from Montreal to St. John, N.B., was built by the direct route passing through Maine. On the prairie, construction was so easy that on more than one occasion six miles of track were laid in a day; but through the rocky stretches between Nipissing and Fort William, and especially in the passes of the Rockies the obstacles were almost heart-breaking. At times the construction money ran out, and those in charge were in a financially tight corner out of which there seemed to be no possible escape. But government aid, ingenious financing, and indomitable will finally overcame all obstacles, and on June 28th, 1886, the first train left Montreal for Vancouver.

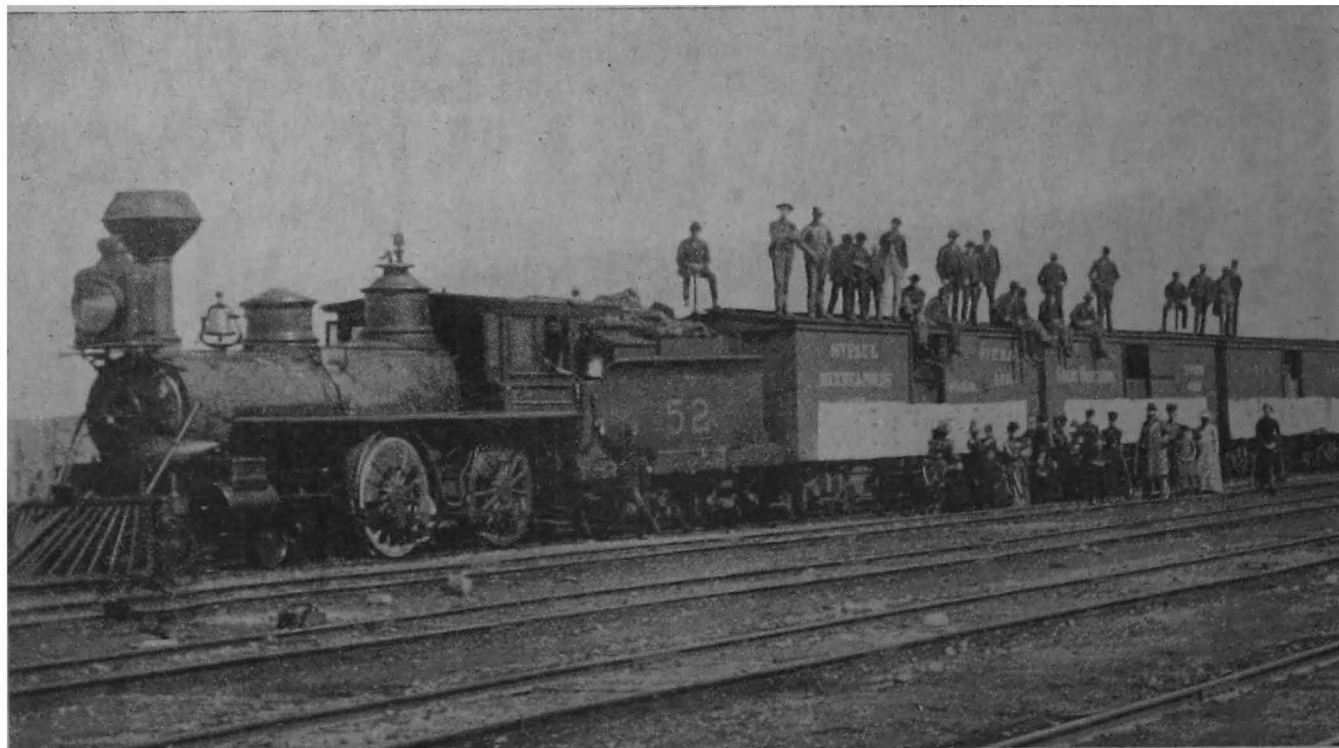
Although the main interest of the C.P.R. was the development of the prairies, the company took a very wide view of its functions and opportunities. In 1887 it started a steamship service from Vancouver to the Orient; a little later it put ships on the Lakes, and in 1902 entered the North Atlantic shipping field. During the boom period after 1900 it expanded rapidly; it established connections in the United States, built branch lines, erected hotels, ran a huge immigration

and colonisation department, irrigated arid areas in Alberta, scattered offices, agencies, and express service over Europe and the Orient, and thus won repute as the world's largest land and water transportation unit. Yet in the early eighties many people were convinced the line would not be able to pay for its axle grease, and the president of a large express company in the United States declined to extend his service to the C.P.R. because he was sure the railroad would soon go under the auctioneer's hammer at a sheriff's sale.

In spite of free land and a railroad, settlement of the prairies was, for a while, very slow. Drought, frost, the second Riel rebellion, the high cost of getting machinery on to the farm, the general depression and low prices, all hindered growth. Still, between 1881 and 1891 the population doubled, the wheat yield grew from one to eighteen million bushels, the Winnipeg Grain Exchange was established (1887), and ranching began. The first cattle ranch was started in 1881 near Calgary, with stock obtained from Montana, and four years later a flock of 5,000 sheep was brought in from the same state to start the first sheep-ranch in southern Alberta.

*The Rush to the Prairies.* After 1896 the rush began. Prices began to recover in that year, and the export price of Canadian wheat rose from 58 cents in 1896 to 80 cents in 1904. Further, all the good land in the United States had now gone into private hands; the days of free homesteading were ended, and land could be bought only at comparatively high prices. At last the United States ceased to rivet the attention of the land-seeker, and so the Canadian prairies got their chance.

They took it, and were helped to do so by the lavish publicity work of governments, railroad and colonisation companies, and Atlantic shipping firms or their agents. Never before had a country so energetically drawn the



American settlers from Dakota arriving Manitoba in 1891. The cars were placarded "No more two Bushels per acre—Free Land—Pure Water—No more five-mile Water haul—Hurrah for Canada."

attention of the outside world to the good thing: it had to offer. The United States was invaded first, and in 1897 advertisements appeared in thousands of newspapers, especially rural weeklies and farm journals; press-men were taken on tours of the north-west, bonuses were given shipping and railroad agents for each immigrant secured, and the country was given a liberal education in the geography and resources of its neighbour. This process was then repeated after 1900 in the United Kingdom. Almost every paper one picked up in any part of that country announced that 160 acres of free land were waiting to be claimed in Canada, and eventually there seemed to be scarcely a village or street from which some one had not gone west. Finally, in spite of the hostility of continental European governments, the good news was spread as far east as Russia. From 1901 to 1908 over \$5 was spent by governments in inviting each immigrant to come, or in regulating and helping him when he landed.

**Canada in the 20th Century**      The result of these efforts probably amazed those who made them, but amazement soon gave place to jubilation and to a strong confidence in the Dominion's future; the days of doubt and pessimism were gone, the drift of population to the south was forgotten. Canada's growing time had come at last; the 20th century was going to be Canada's century, just as the 19th had been that of the United States. The tide of immigration began to rise before 1901, and between 1901 and the outbreak of the European war in 1914 nearly 3,000,000 people landed in Canada. At the height of the tide (1912-13), 402,000 came in a single year.

But not merely did immigrants come, bringing their worldly goods with them in quantities large enough to

fill anything from a cloth bundle or hand-bag to a box car. Capital came also, in flood after flood, from the United States, from Great Britain, and even from France and Germany. It supplied loans to governments and local authorities, bought large blocks of land for speculative purposes, paid for the construction of more railroads, went into buildings in the cities, or scattered factories, mines, water-power installations, lighting plants and street car services over the old east or the new west. While it was being spent it added to the prosperity that was raging ; it bought goods, paid wages, and added to the country's productive or transport equipment.

The influx of population and capital caused a "virtual recasting of Canada's industrial and commercial character", gave a greater variety and strength to its economic life, and lifted it "from comparative obscurity to a position of modest but real consequence in the field of international trade". We can study the transition under four headings, which between them cover the making of the Canada we know to-day. Those headings are :—(1) The settlement of the prairies, the production and marketing of land products, especially of wheat. (2) The development of additional transportation systems to serve the new settler and link him up with the coasts. (3) The rapid industrial development and exploitation of natural resources, especially in the east. (4) The rapid growth of foreign trade.

A large part of the immigration wave (1) **Prairie Settlement** swept over to the prairies. About a million settlers came from the United States in the first fourteen years of the present century, and three-quarters of them were farmers, farm-labourers, and their families. We can easily see why they came. Minnesota, North Dakota, and the

neighbouring states were now filled up, and land which had originally been homesteaded was worth anything from \$20 to \$60 an acre. The sons of farming families were grown up, but there was no cheap land near-by on which they could be settled. So they were sent north, and often the family sold its whole homestead, at say \$25 an acre, and migrated across the border, there to obtain land free or for a few dollars an acre. These people often made the best settlers, for in addition to their experience in prairie farming, with its fight against drought and frost, they brought much capital, equipment and stock ; in 1909 alone, settlers from the south brought with them over \$60,000,000 in stock, cash, and effects.

About half the United States settlers took homestead farms ; the rest bought land, and as early as 1902 it was said that "land agents are everywhere, buying land wholesale for individuals and companies. In St. Paul they are selling twenty thousand acres of Canadian land every day, retail, to investors and homeseekers . . . One syndicate has just bought a block of over 1,000,000 acres". To some extent this "American invasion" was really a prodigals' return. A large part of the population of the Dakotas and Minnesota consisted of Canadian emigrants or their descendants, and in its publicity work Canada made special efforts to persuade these people to return, with no small measure of success.

The second important source of prairie population was the eastern provinces of Canada. By 1914 almost every Ontario farm-house had sent at least one son to the prairies ; ten years earlier, men from Ontario and Quebec had been taking one-sixth of the homestead blocks granted, and during the whole boom period about one-third the homestead entries were made by Canadians. For the rest, the prairie flood was composed of settlers and labourers from every part of Europe. Englishmen

sometimes came in groups to found a colony ; Doukhobors came from South Russia to plant communities in Saskatchewan and British Columbia ; Icelanders settled on the shores of Lake Winnipeg, Galicians went north of Saskatoon, while the quarter-sections taken up by Scots, Irish, Scandinavians, Germans, Russians, and others formed a patchwork quilt of race distribution over the settled areas. But when a party of 200 negroes from Oklahoma, bound for free homesteads west of Edmonton, passed through Winnipeg in 1911, there was protest throughout the west that racial quality was being sacrificed in the interests of quantity—or of immigration agents' bonuses.

Most of the settlers tried to get near existing or projected railways. At first this meant near the C.P.R., which was throwing out branch lines, pushing its sales of land, and developing a system of selling ready-made and fully-equipped farms. "Providence, Incorporated" was the name given the C.P.R. by a Danish immigration agent, but there were many who felt that the prairies needed more than one providence. For, in wheat-growing country a railway is little use to land more than twenty miles away ; but the C. P.R. lay toward the southern edge of the Canadian prairie, and except where it threw out spur-lines it left large areas of fertile land to the north untouched. A second line was built, and then a third, to connect the prairies with the two oceans, and so boundless was the confidence of the period that a railroad magnate could say, in 1910, "When the third (transcontinental) is completed there will be lots of room for others". The two new lines facilitated settlement W.N.W. of Winnipeg, running through Saskatoon, Battleford, and Edmonton, and gave a new Pacific outlet at Prince Rupert as well as an additional track to Vancouver. Thus the settled region became roughly an acute-angled triangle, with Edmonton and

Calgary as the base points, and Winnipeg at the apex. Beyond Edmonton, to the north-west, lay the Peace River, which according to the optimists, only needed rail communication to make it a second Saskatchewan.

*Wheat.* Over this settled triangle the main interest at first was in wheat. The prairie climate was suitable for the production of a hard grain, rich in the qualities desired for good flour and attractive-looking bread. Fortunately for the prairie, a revolution in the methods of making flour had made it possible to mill hard wheat effectively. In the old days grain was ground by being fed between two stones, one of which revolved on the other. But this method was suitable only for soft wheats, such as were generally grown in Eastern Canada; hard wheat was hard to grind. During the seventies and eighties, however, the "Hungarian process" was introduced. The essence of this process was that the grain was passed through a series of iron rollers; the first set of rollers broke the grain into small pieces, and each subsequent set ground it a little finer, so that by a process of gradual reduction the whole of the flour was extracted. By this new method it was possible to mill prairie wheat economically; in fact one might almost say that the Hungarian process was as important a factor in settling the prairies as was the C.P.R.

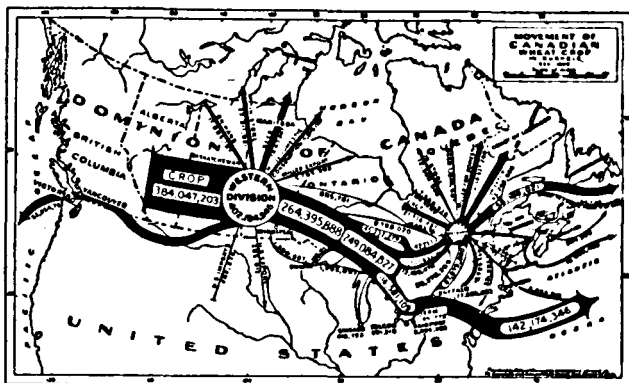
Climate as well as railroads determined the area that could be settled. Parts of Southern Alberta and Saskatchewan were too liable to drought to be "safe" areas unless they were irrigated. The C.P.R. therefore spent \$15,000,000 in providing means for watering over two million acres. Thus land that had formerly "not been worth five cents an acre" for settlement was made valuable, though there was much failure as well as success in the results obtained. Elsewhere on the prairie the crucial climatic fact was the short growing season. The further north one went the greater was the danger



that a late spring or early nip of winter would ruin the settler's chance of getting a crop. Therefore the agriculturist had to seek for a seed-wheat that would combine the virtues needed for milling and baking with the merit of quick growth and early ripening.

In 1903, Dr. Charles Saunders planted a single grain of a new kind of wheat in an experimental plot at the Dominion farm in Ottawa. It was a cross-bred wheat, and one of its parents gave it the desired milling and baking qualities, while the other gave it the ability to mature quickly. Dr. Saunders christened it Marquis wheat, and found it so well adapted to the climatic conditions out west that wheat-growing was made more safe over the whole belt, and the belt was widened northward. In 1924 about four-fifths of the wheat grown in Canada was Marquis ; but in that year fifty farmers were testing a new wheat sent out from the Dominion farms. The new-comer was called Garnet, and tests showed that it matured in about ten days less than Marquis. In 1926 over 4,000 western farmers tested Garnet, and it seems probable that the new-comer, by ripening in less than a hundred days, will make safe the extension of the grain belt still further north.

The new settlers turned their attention at first almost solely to wheat and the prairie tended for a time to be a "one-crop" region ; the farmer shipped his grain when it was ready, and did not retain even the breadstuff necessary to supply his own kitchen with flour. His flour, meat, fuel, building materials, clothing, domestic equipment, etc., were obtained over the railroads from distant factories and stores ; the departmental store catalogue became his bible. He thus became almost as much a specialist as the factory employee, and the contrast between him and the pioneer of Eastern Canada a century earlier is very striking. In 1901 wheat production was less than 24,000,000 bushels ; by 1911



Movement of the Canadian wheat crop, 1925-26.

it was over 200,000,000, and under the pressure of high prices and war demands rose to 340,000,000 in 1915 ; but bad seasons and a scarcity of labour cut that figure in half three years later. After the war production mounted rapidly, and to-day (1928) the normal expectation is that the prairies will produce annually at least 400,000,000 bushels, though of course climatic variations always make the yield a fluctuating quantity.

*Diversified Farming.* While wheat remains the great exportable staple, the prairies gradually turned to other products. Land became exhausted by continuous cropping, and some parts of south-west Manitoba, where once a thirty-bushel crop was not uncommon, were at times abandoned because they had been "farmed out." Further, during the war and immediately afterward, when wheat was selling at times for over \$2.50 a bushel, farmers gladly bought more land at very high prices in order to extend their holdings. But when in 1920 wheat dropped to \$1 a bushel, or even less, the prairie-dweller, like his companions in every other grain area, became

seriously embarrassed, and profound gloom and financial chaos prevailed. Was it wise to use his lands only to supply a market in which prices were so erratic? Could he put his acres to any better use? Could he free himself from his old dependence on Winnipeg, Chicago, or Liverpool? Ought he to turn to diversified farming, and thus put his eggs in more than one basket?

Even before 1914 many farmers in Manitoba and Alberta had overthrown the monopoly of wheat, had given attention to oats and other crops, had kept cattle or turned to dairy work. But in 1912 Winnipeg could not get enough butter, eggs, or vegetables from Manitoba to meet all its needs, and the scarcity of labour, along with the unpleasantness of outdoor chores in sub-zero temperatures tended to keep prairie farming a summer pursuit. Since 1920 however, mixed farming has been much less unpopular; in 1925, three bushels of coarse grain (oats, rye, and barley) were produced in Manitoba for every bushel of wheat, while in Saskatchewan and Alberta the output of coarse grains was nearly equal to that of wheat; the three prairie provinces had almost as many milch cows as had Ontario, and their output of butter was four-fifths that of the older province. The farmer is learning to use his land for twelve months in the year, instead of only four or five.

*Marketing Grain.* Another prairie problem was that of marketing the increasing volume of grain. This problem had two aspects: (a) storage and transport, and (b) the actual sale. By the time the prairies were settled, wheat was being handled in bulk, not in bags; "Yankee ingenuity" had devised the elevator to take advantage of the fact that grain would flow downhill, and transportation was carried on in big box-cars or in the holds of vessels. The grain grown by Farmer Brown was not kept separate from that of Farmers Smith, Mactavish, O'Leary, and Robinovich; it lost its identity in an

ocean of wheat, and all that Brown knew was that he was entitled to payment for so many bushels of grain of a certain grade. The chief thing interesting him, was the price he got for his bushels, and at times he felt he was not getting enough, but was being robbed by the long series of middlemen—elevator owners, railroads, steamships, banks, grain dealers, commission men, exporters, etc.,—who stood between him and the consumer.

The railroad, the elevator, and the grain exchange were nearest to him, so they seemed to be his greatest exploiters. The C.P.R., when it ran its track on to the wheat belt, did not erect elevators for itself, but encouraged others to do so by offering free sites and by promising that it would not load grain except out of elevators; it would not, for instance let a farmer, or group of farmers, have a car into which they could load their own grain out of their carts. This promise and offer caused many elevators to be built, and often the owner was a dealer in grain as well. The farmer was compelled to patronize the elevator, and often in practice to sell his grain to its owner, at the owner's price and grading; occasionally the elevator clerk "docked" an excessive percentage off the total weight delivered, on account of the foreign matter and dirt the grain was estimated to contain, and there were frequent complaints that the wheat was graded too low.

Dissatisfaction therefore grew keen and widespread among the farmers, who demanded that the state should regulate the grain trade. This was done by the Manitoba Grain Act of 1900, which, when amended and improved various times at later dates, brought the trade under strict control. Grain dealers were compelled to secure a license before they could carry on their occupation, railway companies were ordered to provide cars where a sufficient number of farmers asked for them,

elaborate provisions were made for fair and thorough grading, and a Board of Grain Commissioners was set up to supervise the trade, deal with complaints, and generally protect the farmer against abuse and exploitation.

*Co-operation and Pools.* In this way some of the old grievances gradually disappeared. But the more serious ones remained ; the farmer still had to sell through a middleman or to a middleman, and use elevators which belonged to others, paying charges that seemed excessive. The remedy seemed to lie in getting control of elevators and of sale. But how? One proposal was that the government should erect and own elevators. The Manitoba government decided to do this in 1910, but the experiment was a failure. At the same time the Dominion government built large terminal elevators at Port Arthur and elsewhere. But the more important proposal was that the farmers should cooperate in establishing their own selling and storing services. Two large cooperative companies, the United Grain Growers, and the Saskatchewan Cooperative Elevator Co., were set up. The former began its work in Manitoba in 1906 ; its shareholders were all farmers, and its business was to sell their wheat for them on commission. Soon it went into the export business leased a terminal elevator at Fort William, took over the local elevators from the Manitoba government, built new ones, started selling cattle, and began buying farm supplies for its members. The Saskatchewan company was formed in 1911, and the government lent it most of the money required for building elevators ; it soon spread its activities over most of the wheat area, and by 1916 the two organisations were handling one-third the prairie wheat crop. They were purely voluntary organisations, and the farmer was at liberty to join them or desert them as he wished, to sell his grain through their offices

or through any outside dealer, and to patronize whatever elevator best suited him.

During the later stages of the War there was only one buyer of Canadian wheat—the British government and its Allies—and until 1920 the prices were very high. But when the price went below \$1 a bushel, the problem of marketing once more became acute. The two big co-operative companies still held their ground, but something more seemed to be needed. Eventually what was known as a pool was established in each of the prairie provinces. The pool is like the German kartells; it is a central selling agency, into whose hands all the members entrust the selling of their grain. Farmers who joined the pool signed a contract that for five years they would hand all their wheat over to the pool, receiving in return a first payment of, say, \$1 a bushel. The pool would sell the wheat when and where it thought best; when it had sufficient money in hand it would make a second and perhaps a third payment to the farmer, and when it wound up the year's work, and found what it had really got for all the wheat sold, it would then make a final payment of all it had received, less working expenses.

The pools began operations in 1923 in Alberta, and in 1924 in the other two provinces. A central selling agency was established to handle the produce in all three pools, and in 1925 over half the total wheat crop passed through its hands. In 1926 about 125,000 prairie farmers were members of the pools, and between them they produced about two-thirds the total wheat crop of the west. Elevators have been obtained, the pool controls about a third of the coarse grain crop, and the pool principle has been applied to the selling of livestock, eggs and poultry. This latest development of co-operation is still in its experimental stage; the pools have been fortunate in that they were organized

in a time of rising prices, and it may be that a slump in wheat prices will lead them into trouble. But after twenty years of accumulating experience of cooperation, the prairie farmer is unlikely to go back to the old methods of marketing his produce.

*The Rise of Towns.* The growth of land settlement caused a phenomenal growth of towns. Winnipeg trebled its population between 1901 and 1911; its position as the key to the west became stronger as new railroads were built, and its vast freight yards became one of the wonders of the world. Banks, wholesale houses, departmental stores all established branches there, and by 1912 there were about 300 manufacturing plants in the city. In six years, over \$60,000,000 was spent in buildings alone, and sky-scrapers towered up above the little gateway of what had once been Fort Garry.

Other western towns grew up almost overnight. Saskatoon in 1901 was a village of 113 people, but in 1912 it housed 12,000 inhabitants, had many imposing buildings, and scores of rich men—rich on paper from land speculation. Edmonton had been a conglomeration of shacks, a halting place on the trail to Klondyke, but by 1912 it had 25,000 inhabitants, stone buildings, paved streets, and boulevarded avenues; Calgary ceased to be merely a "cow town" and increased its population ten-fold in a decade, while Regina bloomed from a township of 2,250 people in 1901 to a market, railroad centre, and provincial capital, with over 30,000 inhabitants, ten years later. Everywhere in the towns there was growth, optimism, talk of boundless development, speculation, and apparent wealth; everywhere borrowed money was being spent in improvements, schools, post offices, hospitals, etc. Everywhere Dominion, provincial, municipal, or railroad construction of public utilities was being carried on, and everywhere

some people were thriving by exploiting the assertion that a simpleton is born every minute.

Inevitably these boom days brought their reward. When the railroads, buildings, and public works were completed, when more money could not be borrowed, or when a small surplus in the world's wheat supply reduced the price of wheat as it did in late 1912, the fabric of western prosperity, built up on credit and paper, was badly shaken. It began to be realised that optimism had over-reached itself, that much of the prosperity had been caused by borrowing and spending other people's savings rather than by consuming the wealth the prairie-dwellers had produced for themselves. The country had to adjust itself after a period of construction, to the conditions of a period of production. Such a transition always hurts, and Canada felt the pains all over its body ; the land bubble was pricked, loan organisations could not get the interest or principal due to them ; unemployment was rife ; the new trans-continentals were seeing financial rocks ahead.

The outbreak of war in 1914 found Canada in the midst of this work of readjustment, and at first looked like the signal for even deeper discomfort. But soon people saw that the agricultural "plant" Canada had been building up in the West, and the industrial equipment constructed in the east during the previous decade would now be extremely useful in helping the country to meet the Allies' requirements for food and munitions. Immigration from Europe virtually stopped, but the stream from the United States continued to flow, though in smaller volume. Wheat prices went high, and the war period was, on the whole, a time of prosperity for the prairies. But the low prices after 1920 brought confusion once more, with merchants' bills and mortgage dues unpaid, with appeals to the government for



aid, with interesting experiments in self-help and co-operation, and with the quickened trend towards mixed farming.

The prairie's growing time was marked by much personal suffering and failure, by settlement on land which was unsuitable or was too far from railways, by wholesale evasions of the conditions (concerning residence and improvement) of the Homestead Act, by disaster caused through leaving inexperienced newcomers to pick land for themselves without expert guidance, by the (often useless) activities of the man who got rich quickly and the tribulation (not always deserved) of the man who got poor quickly. But the broad stream of settlement flowed on, prairie was broken, elevators were built, railroads were laid, and production was increased. In 1911 there were 170,000 more farms in Canada than in 1901, and the number has grown since then; the number of people "gainfully employed" in agriculture grew by 30% between the census of 1901 and 1911, after having fallen nearly 10% during the preceding decade, and by 1911 Canada had established herself as the world's greatest exporter of wheat and as Britain's "bread basket".

**(2) The West's Transportation Problem** The expansion of the west brought the transportation problem to the front once more. It had four aspects. (1) How could settlers and their goods be taken to their destination, and their products be carried to a market which was largely overseas? (2) To what port was grain to be sent? To an Atlantic outlet, to Vancouver and so through the Panama Canal, or to some port on the near-by Hudson Bay and thence by the short route to Europe? (3) Which was better—an all-land route from the western wheat-field or a land—Lakes—St. Lawrence route?

(4) Could the grain be taken through Canadian channels to a Canadian port, instead of letting it find an outlet south of the border? Finally, the virtual monopoly of the C.P.R. over prairie development was bitterly resented by many who thought the Company was charging extortionate prices for its services; and the financial success of the C.P.R., along with its inability at times to cope with the colossal volume of western traffic, led other railroad interests to seek a slice of the prairie pie.

One of these interests was the Grand Trunk, which since the fifties had been steadily extending its service in the east and centre of the Dominion, and had pushed its western terminus out to Chicago. It had hoped, in the seventies, to be given the task of constructing Canada's first transcontinental; now it saw that if it was to share in the prosperity of the period it must "go west and grow up with the country".

Meanwhile another Canadian railroad interest was feeling the need for going *east*. That interest consisted of two men, William Mackenzie and Donald Mann, known to their fellows as Bill and Dan. Mackenzie had been a general storekeeper at Lindsay, Ont., but he eventually decided that "there was more money in selling railway ties to contractors than in selling nails and baking powders to villagers". He secured a contract to build a section of the C.P.R., and met Mann. The two joined hands, and gave Canada one of the most ingenious and energetic business partnerships it has ever known. They built lines for others, then began to build for themselves. The rush to Klondyke and the prairies convinced them that the best field of action lay in the west, and after 1896 they began to acquire or build a network of lines to serve the new grain-growing population. By 1902 they had a line from Winnipeg to Port Arthur, and their rail-head was in Saskatchewan; by 1905 they were into Edmonton. But why stop at

that? Why remain merely a glorified local service? Why not stretch out and become a transcontinental, with termini on the Pacific, the Atlantic, and Hudson Bay?

To-day it is easy for us to say that the Mackenzie-Mann concern, known as the Canadian Northern, and the Grand Trunk should have joined hands. This would have made a strong rail-road unit, for one of the parties would have provided a network of prairie lines while the other would have contributed one covering the St. Lawrence country and the Atlantic terminals. But we are being wise after the event, and in 1902 there were few people who would have given a moment's consideration to such a prudent policy. The tide was rising, railroads would be wanted in abundance, the Grand Trunk was eager to break the monopoly of the C.P.R., and Bill and Dan were bubbling over with enthusiasm. The Maritimes wanted the wealth of the west to flow through their ports, and manufacturers and contractors were rubbing their hands in high glee at the thought of the orders for materials and construction work that would come from big railroad schemes.

*New Transcontinentals.* In 1902 therefore the Canadian Northern was given permission to span the Dominion. In 1903 the Grand Trunk and the Dominion Government joined hands to build a third transcontinental; the Grand Trunk was to build a line, the Grand Trunk Pacific, from Winnipeg to Prince Rupert, while the government was to build one from Moncton in New Brunswick, round across the back country to Cochrane and on to Winnipeg. This government track, the National Transcontinental, was to be leased to the Grand Trunk Pacific for fifty years.

Then began a "race more exciting than the chariot contest in Ben Hur". The C.P.R. built more branch

lines in order to fight its new rivals. Mackenzie made frequent trips to Europe to raise capital for his venture, and was usually successful in borrowing many millions in London, Paris, or Brussels. The government's line from Moncton to Winnipeg was pushed ahead steadily ; but its cost was so much greater than had been anticipated that the Grand Trunk Pacific refused to take over the line, since it would, by its agreement, have been compelled to pay an annual rent of 3% on the cost of construction. The Grand Trunk Pacific was also energetic ; by the end of 1910 its main line was laid from Fort William to beyond Edmonton, and from Prince Rupert over a hundred miles into the Rockies, where a thousand teams were sometimes engaged in hauling supplies ; it had 800 miles of branch line under construction, and sumptuous stations and hotels at Ottawa, Winnipeg, and Edmonton were almost completed. It even talked of a line to Dawson City, but the decline of gold-mining in the Yukon saved it from adding that line to Canada's railway liabilities. Finally, the Dominion government began the Hudson Bay railway.

Between 1900 and 1915 Canada doubled its railway mileage, and in the latter year had 36,000 miles of track in operation. Nearly a billion dollars had been spent on the work since 1900 ; new areas had been opened up, the grain-growers had been given better access to the coasts, and the opening of the Panama Canal in 1915 promised to make Vancouver or Prince Rupert valuable outlets for the produce of the Western prairies. But the pace had been too fast ; extravagant construction costs had loaded the railroads with interest burdens too heavy to be borne, except under extremely prosperous conditions ; competition, rather than the country's needs, had spread three lines from coast to coast, whereas two would have been ample for many years to come. Further, the high hopes entertained in 1903 that the

bulk of the grain would be carried by All-Canada routes were doomed to disappointment ; the greater abundance of shipping space in New York still helped to attract Canadian grain to United States ports instead of over the new railroads ; even to-day more Canadian grain leaves the continent through United States ports than through those of the Dominion.

*The Railroad Crisis.* Canada reaped the reward of its excessive railroad building during the Great War, though even in 1912 the Canadian Northern was in financial difficulties, and in 1909 and 1913 the Grand Trunk Pacific had been compelled to seek loans from the Dominion government in order to help in completing the line. Neither of the roads was finished when war broke out, and neither of them could meet its interest charges. The government had promised to guarantee this interest to some extent, and was also a large creditor of both lines; it was therefore deeply involved in their fate, and in any case could not allow them to suspend their traffic operations while the war was on. It therefore took them both over, along with the old Grand Trunk, which had been brought into bankruptcy by the misfortunes of its prairie child; the Canadian Northern passed into the government's hands in 1917, and the Grand Trunk system a little later.

The government now found itself with 22,000 miles of railroad on its hands, including the old Intercolonial, the Hudson Bay line, which had cost \$15,000,000 and still needed another hundred miles of track to take it to the Bay, the old Grand Trunk stretching from Portland to Chicago, the new Transcontinental from Moncton to Winnipeg, the Grand Trunk Pacific, and the Mackenzie-Mann creation. All these lines were placed under the control of one board of directors, which at once began the difficult task of welding half a dozen

bankrupt and often competing railroads into one efficient system. Within two years very marked progress in equipment, economy, and service was made, and as the Dominion recovered from the depression of 1920-2 the National Railways began to have a hope of meeting the heavy interest charges they had inherited from the "magnanimous system of finance" under which some lines had been built. To turn a jumble of derelict lines into a well-equipped efficient unified system and come within sight of meeting the inflated financial obligations, this is one of the great achievements in Canada's economic history.

*Water Transportation.* The expansion of the west also revived interest in the problem of inland navigation. At Confederation the Dominion government took over the existing canals, and during the next thirty years spent about \$80,000,000 on maintaining, improving, and extending them. It cut a channel at the Sault Ste. Marie, and deepened the Welland and St. Lawrence canals in order to give a channel 14 feet deep between Montreal and the head of Lake Superior. But when the prairie boom began in earnest, much more ambitious schemes had to be considered. In the United States as well as in Canada the problem of getting cheaper and more adequate access from the heart of the continent to the Atlantic seaboard called for solution; traffic from the west became jammed in the "bottle neck" of the Atlantic ports, and there were not enough railroads or terminals to handle the produce.

Various schemes were therefore suggested in both countries; some people wanted a deep waterway from Lake Michigan to the Mississippi; others urged the improvement of the Erie Canal, others demanded a ship canal from the Lakes to the Hudson. Canada in 1913 began making a ship canal across the Niagara

peninsula ; this new channel was to be 25 feet deep, but the depth was later increased, so that the canal will be nearly twice as deep as the old Welland Canal ; it will have only seven locks against 26 in its predecessor, and each of them will be about three times as long and nearly twice as wide as those formerly used. This big piece of engineering will probably be finished by 1930; it will have cost \$100,000,000, and be big enough to allow the largest lake carriers to come down from the head of the Lakes into Lake Ontario and at least as far east as Kingston.

Meanwhile a still more ambitious scheme was considered by the governments at Ottawa and Washington. It pictured improvements in the St. Lawrence itself, in order to give a waterway, 25 or 30 feet deep, from the Atlantic to the head of the Lakes. Along this route big ocean-going vessels could travel ; they would pick up their wheat cargo at the west end of Lake Superior and carry it all the way to Liverpool. They would take on the products of Cleveland, Detroit, or other parts of the big industrial regions around the Lakes, and sail for the ports of the world. In addition, the scheme would allow the rapids on the St. Lawrence to be dammed up and harnessed, so that possibly 4,000,000 H.P. of hydro-electricity could be generated.

Such a big navigation and power scheme would be one of the engineering wonders of the world if it could be carried out. The cost would be large, and there are many technical and engineering difficulties to be faced, in addition to the ever-recurring one of ice. Opinion in the United States is divided on the relative merits of the St. Lawrence and other schemes, and Canadian and United States engineers have not yet agreed on the best method of carrying out the work. Students of this book should therefore watch their daily papers during

the next few years to see what progress is made in carrying out the proposal. They should also watch the effect of the opening of the Welland Ship Canal, the results of completing the Hudson Bay Railway, and the growth of Vancouver as a wheat port.

We must now go east and see how the

(3) **Expansion in the East** expansion of the prairies, combined with other influences, stirred the older provinces to new life and development. This new life was mining and manufacturing rather than agricultural, for while Ontario and Quebec are still responsible for nearly half of Canada's agricultural production, their expansion in other directions has been the outstanding feature of the last thirty years. Other provinces also gave increased attention to various manufactures ; even the prairie towns soon boasted of their factories and workshops. Hence whereas in 1881 there were four people employed in agriculture for every one engaged in manufacture, by 1911 there were only two, and by 1920 the net value produced in the factories of the Dominion exceeded that of the farms. Since then manufacturing has gone ahead still more, and accounts for nearly half the total net production of the country ; agriculture contributes about a third, forestry about one-tenth, and mining about one-tenth ; fish, fur, electric power, and construction work are the other chief sources of wealth production.

The rapid expansion of manufactures after 1900 was due to many causes. The settlement of the west was undoubtedly the chief ; the new settlers wanted supplies of all kinds and drew some of them from Canadian factories, though many came from abroad ; the building of the railroads created a vast demand for construction material and equipment, as did also the spending of provincial and municipal loans. But there were other



causes as well, causes which can be covered by the assertion that Canadians, and others, discovered the great resources of the country and began to exploit them. Those resources were hydro-electric power, minerals, and wood.

*Hydro-electricity.* One of the chief handicaps of Central Canada was its lack of coal deposits, and its dependence on coal brought from a distance. Water-wheels were not big enough to turn the machinery of large factories, firewood was becoming scarce, coal from Nova Scotia, Alberta, or the United States was costly, and Ontario's solitary oil-field at Petrolia was far too small to meet the country's demand for oil fuel. The first hydro-electric installation was at work at Niagara, on the United States side, by 1881, but little was really done to harness Canadian falls or rapids till after 1900. In 1891 there were only about 80 plants generating electricity in the whole Dominion, and most of them were very small; in 1903 the number had grown to over 300, but half of these used steam engines to drive the generating machines.

By that date, however, manufacturers and municipalities were realising strongly the need for using the power that nature had provided, and when a long coal strike in Pennsylvania in 1902 cut off Ontario's coal supply, closed the factories, and brought a winter of real hardship to thousands of people, the need for using Canadian "white coal" was impressed deep on the mind of those who lived in the coal-less regions. Private companies began to produce power on the Canadian side of Niagara, and in 1906 the Hydro-Electric Commission of Ontario was established to buy or produce electricity and sell it at cost price to the municipalities of the province. At first the Commission bought power from private producers, but soon began to erect its own plants on the Severn and Trent rivers, and later built a

huge 600,000 H.P. station below the Niagara rapids. This power it distributed to the towns, large and small, scattered all over Ontario, and to certain rural areas, thus serving the needs of the householder, the farmer, and the manufacturer.

"Hydro" was a cheap substitute for steam and coal in the old, settled parts of Ontario and Quebec ; but for two important industries—mining and paper-making—the position was virtually "No hydro, no industry". Both needed large quantities of power to turn their big grinding or crushing machines, or to allow them to treat and refine metals. It requires about 100 H.P. to make one ton of paper a day ; about one-seventh the total cost of producing aluminium is swallowed up in power, while in the production of chemicals, cement, and a wide range of metals, modern methods call for large quantities of power. The rapid growth of mining, pulp and paper-making, the production of aluminium and cement, and the treatment of metals since 1900—and especially since the War—have therefore been intimately connected with the growing utilization of water power.

In 1910 less than 1,000,000 H.P. was generated in the whole Dominion, but about 5,000,000 H.P. will be available by 1928 ; it will be produced chiefly in Quebec and Ontario, but Manitoba, British Columbia, and the Maritimes also have hydro plants and sources of power awaiting the engineer. It is estimated that the minimum power available for development all the year round is nearly four times the present production, and that as much as 30,000,000 H.P. could be obtained if needed. Evidently therefore Canada still has large power reserves waiting to be put to work, and has entered an "electrical age" so far as her industries are concerned. For her railroads and her domestic furnaces however, she is still bond-slave to King Coal.

*Coal.* The second natural resource discovered or actively exploited after 1895 was Canada's mineral wealth. By 1830 minerals of various kinds had been found in most of the settled areas of eastern and central Canada, and the coal deposits of the Maritimes were worked nearly all through the 19th century. But in 1886 the total mineral production was worth only \$10,000,000. In that year more coal was imported than was produced in Nova Scotia and British Columbia combined, despite the National Policy which had placed a duty on imported coal. In 1893 however, a number of small mines in Cape Breton were amalgamated in the Dominion Coal Company ; they were brought under one management, better machinery was installed, and transportation facilities were improved. In less than ten years output increased fourfold, and as other companies also became more energetic the output of the province rose rapidly, while coal was obtained in increasing quantities in British Columbia, and new fields were opened up in Alberta.

Unfortunately, the big coal beds are in regions where there is no great industrial demand for coal, for industry has not settled down on the coal-fields as it has in other parts of the world. The cost of bringing coal from Alberta or the Maritimes to the industrial centres is too great, amounting to about \$9 per ton. Hence the only market is either the local consumer or the foreign buyer. But local consumption is not great, since the coal-producing provinces are not becoming important industrially ; demand from the railroads and the domestic furnace does not grow rapidly, the United States market is protected by a tariff wall, while overseas markets are dominated by British and German supplies. Thus Canada has not been able to exploit her rich coal resources as she has her other forms of natural wealth.

*Iron and Steel.* In one important instance coal did attract a big industry to come and live with it. The development of iron and steel production is always a big step forward in the industrial history of a country, but is a difficult one to take. The works at Three Rivers and Marmora belong to the pioneer days, and little real advance was made in treating Canadian iron ore until the general boom began in the nineties. Those who made iron or steel articles usually imported their material or bought up scrap metal. One Hamilton firm bought the iron of the *Great Eastern*, the giant liner built in the fifties; it purchased the metal in the first suspension bridge across Niagara, and that in the Victoria bridge built across the St. Lawrence at Montreal in the fifties. This metal was worked up into bar iron, the bulk of which went into the construction of agricultural implements. But as late as 1891 only 20,000 tons of pig iron were made from Canadian ore.

The Dominion government tried to encourage the industry. In 1883 it began to offer a bounty on all pig iron made in the country; later it extended the bounty to steel, and introduced conditions favouring metal made from Canadian ore. In 1894 Ontario also began to offer a bounty. But little happened until some United States financiers became interested in Canada's iron and coal resources. These men brought new life to the Nova Scotia coal mines, and then turned their attention to iron and steel. They saw that circumstances were favourable to the production of metal at a cost below that of Pittsburgh. For Pittsburgh had to gather together its ore, coal, and limestone from places far apart, at a cost of about \$3 on each ton of "pig". Further, if Pittsburgh wished to send its product abroad it had to spend perhaps another \$2 a ton to get it to the coast. But a Canadian plant situated on Cape Breton would escape most of these transportation costs. Coal was on

the spot, and limestone was near-by ; there were local deposits of iron ore, while 400 miles away, on Belle Isle, Newfoundland, vast quantities of rich ore had been found in the cliffs along the coast. The materials could therefore be brought together at one-third the Pittsburgh cost, while the plant could be built at tide-water and the finished product loaded straight into ocean vessels. Cape Breton's position as a steel-maker therefore seemed "something more than strong. It (was) simply impregnable".

The Dominion Iron and Steel Company was therefore set up ; a big efficient plant was erected at Sydney, and that township grew from 2,500 people in 1891 to 15,000 ten years later. Meanwhile, another Nova Scotia venture, which had begun in the seventies as a little forge with \$4,000 capital, in New Glasgow, became ambitious. This company had at first used scrap iron for its forgings ; then it began to make steel, and finally decided to erect a complete plant, owning local coal mines, ore deposits in Belle Isle, limestone supplies, blast furnaces, steel hearths, and rolling mills. This company was the Nova Scotia Steel and Coal Company, and with its neighbour at Sydney it dominated the Maritime iron, steel, and coal industries.

Bounties and boom aided the establishment of iron and steel works inland. Iron ore deposits existed in Ontario, especially on the north side of Lake Superior. If Pittsburgh was growing big on Lake Superior ore, why could not places on the Canadian shores of the Lakes do the same ? Coke could be imported free of duty from the United States, and the necessary materials assembled at a low cost. At Midland and Collingwood on Georgian Bay, iron and steel works were set up, while further west, at Sault Ste. Marie, the feverish optimism of a Mr. Clergue erected plants for producing iron, steel, pipes, tubes, steel rails, as well as hydro-electricity, pulp and

paper, nickel, chemicals, machinery, rolling stock and ships.

Some of these ambitious projects over-reached themselves ; but between them they helped to bring the industry forward from the infant stage of the 19th century. The output of pig iron increased fourteen-fold between 1890 and 1903 ; by the latter date the steel plants were getting to work, and production rose to over a million tons in 1913. Hence when the war came Canada had a large metal plant available, and was able to meet many munition requirements ; steel production went two-thirds higher than its pre-war record, and the output of war equipment was large and varied. But the industry had been fed by the orders for construction work before the war and by the needs of the armies during the war ; so when the depression of 1920 came, the industry had to face a diminished demand and increased competition from Europe and the United States. Hence the steel output in 1926 was much below that of 1913, but the pig iron market has been kept largely in Canadian hands.

*Other Minerals.* The most spectacular feature of Canada's recent mineral development has been the discovery of varied wealth buried in the Laurentian Shield and the Rockies. Before Confederation, gold had been mined in British Columbia and Nova Scotia, silver had been found at Thunder Bay (Port Arthur) and in many other parts of Ontario, and copper was being unprofitably worked north of Lake Superior. But the labours of the prospector, the geologist, and the railroad-builder had to be done before the country knew what it was worth in mineral deposits. Hence, the total mineral output in 1886 was worth only \$10,000,000, of which half was coal, and a quarter was building stones, lime, sand, gravel, bricks, tiles, and earthenware.

Forty years have brought a more than twenty-fold increase in the value of production, and of the \$225,000,000 worth of minerals produced in 1925, coal, gold, lead, nickel, copper, silver, asbestos, and zinc account in all for three-fourths. The discovery of new sources of many of these metals was a mixture of chance and romance. For instance, the asbestos deposits in Quebec were found by men who were building a railroad in the Eastern Townships district; the copper-nickel ores of the Sudbury field were found when a cutting was being made for the C.P.R. in 1883; and the construction gangs on the Temiskaming and Northern Ontario Railroad in 1903 uncovered at Cobalt veins of silver which gave Ontario one of the richest silver-mining centres in the world. The same railway made possible the further exploration and development of the Porcupine gold area.

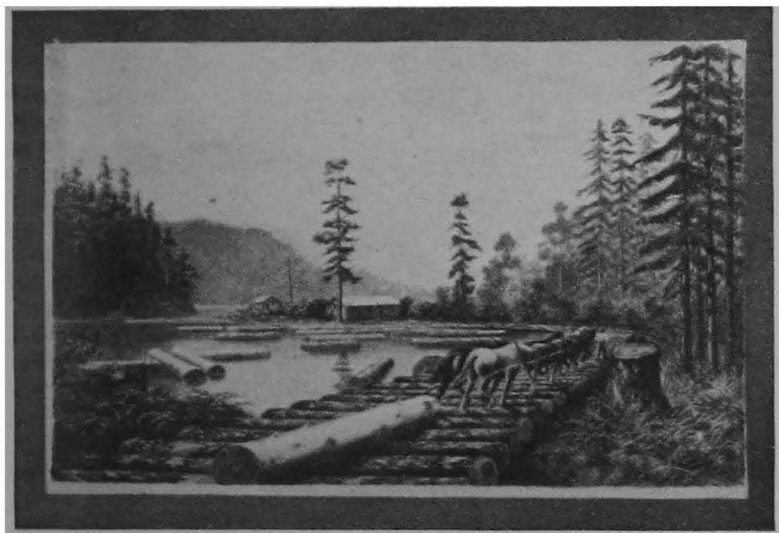
In these instances, discovery and means of transport came together and so each "find" was soon followed by an inflow of capital and the working of the deposits. Within eight years of its discovery the Cobalt field was producing over thirty million ounces of silver; the gold output of Ontario in 1903 was worth less than \$200,000, but in 1926 it had grown to over \$25,000,000. The Sudbury field was first worked for copper, but when nickel was found in the ore the industry developed rapidly, for it had just been discovered that the addition of a small quantity of nickel made steel tough, hard, shock-resisting and rustless. By 1926 Canada was supplying four-fifths of the world's nickel requirements, and the scientist was discovering new uses for that metal. The production of asbestos, like that of nickel, depended largely on finding more uses for the mineral, and since 1895 the output has grown thirty-fold, making asbestos the chief mineral product of Quebec, and Quebec the chief source of world supply.

*Forest Wealth.* Forest wealth received increased attention after 1890. Lumbering had been one of Canada's first important industries, first along the Lower St. Lawrence and in the Maritimes, then along the Ottawa Valley, and later around Georgian Bay, But in the settled areas the supply of commercial timber was nearly all burned down or had passed through the little local saw-mills by the end of the 19th century, and in the more remote districts the accessible areas of good timber were shrinking as fire and axe did their work. Hence the exports of forest products remained almost stationary in value between 1868 and 1888, though they increased somewhat in volume.

The industry shared in the general prosperity after 1896, and began to adopt large-scale mechanical methods of production and transportation. Oxen gave place to steam engines, rail-tracks were built from the mill or the water-edge out into the forest, and whereas once it was believed that timber was useless if it was three miles from water, the small powerful engines now began to haul big trunks from far inland. Rail, road, or telephone gave better contact with the outside world, the task of getting supplies of food, etc., became less difficult, and the old legend that lumber-jacks were fed on beans "twenty-one times a week" was forgotten. Saw-mill equipment was improved and made larger, and big businesses dominated the industry on the Ottawa and in New Brunswick, as well as in British Columbia.

British Columbia forged ahead after 1900 as the chief lumber province. This was due to four main factors. (1) The easily accessible saw-timber belts of the east had been exhausted. (2) Abundant rainfall and mild temperature in B.C. produced big forests, big trees, and plenty of them, especially such trees as the Douglas fir and the cedar. (3) The industry grew up later than that in Eastern Canada, and so used large-scale and





Both heavy timber of British Columbia and a corduroy road are here strikingly illustrated

mechanical methods almost from the beginning. (4) The opening of the Panama Canal gave the west coast easier access to the markets of Europe and the Atlantic coast of North America. In 1908 the western province produced less than one-fifth of the Dominion's lumber, but in 1925 she was responsible for over one-third, and was subjecting eastern producers to fierce competition even in the markets of Ontario and Quebec.

*Pulp and Paper.* In 1925, however, and even before, lumber had given place to pulp and paper as the centre of interest in eastern Canada. In the old days, when paper was made of rags, rope, or straw, one or two small paper mills were set up in Canada, and as early as 1825 the Upper Canada government gave a bounty to the first paper-maker in the province. With the spread of

education and the growth of newspaper-reading in the second half of the century, the supply of rags in the world became insufficient to meet the demand for paper, and eventually experimenters found a way of making paper from wood. But Canada was slow to take advantage of this discovery, and for a time the chief paper-makers were Norway, Sweden, and the United States. Canada in 1881 had only five small mills, with a total annual output of \$63,000.

Gradually, however, the United States exhausted its supply of available raw material, and as newspapers grew in size and circulation an insatiable hunger for newsprint developed, for which United States paper-makers could not provide sufficient food. The United States therefore turned to Canada. At first she bought wood, which she made into pulp in her own mills; then she began to make pulp on Canadian soil, and finally built huge plants for the manufacture of the finished article as well as the pulp. Provincial governments demanded that some of the work of turning wood into paper should be done in Canada, and refused to grant timber licenses except on that condition. Canadians also realised the possibilities of the new industry, and the invasion of the spruce and balsam forests of Quebec and Ontario began in full force.

The invaders had an ideal country to conquer. Pulpwood covered millions of acres; Quebec in 1926 had 200,000 square miles of forest, of which only about 12,000 had passed into private hands, and the total forest area of the Dominion probably exceeds a million square miles in all. So there were big areas which could be made available for large companies with costly plants; in addition there was abundant water-power, while the finished product could be loaded straight from the mills on to steamers. Finally, there was a big market next

door, and beyond that lay countries which wanted paper but had not the necessary materials or power.

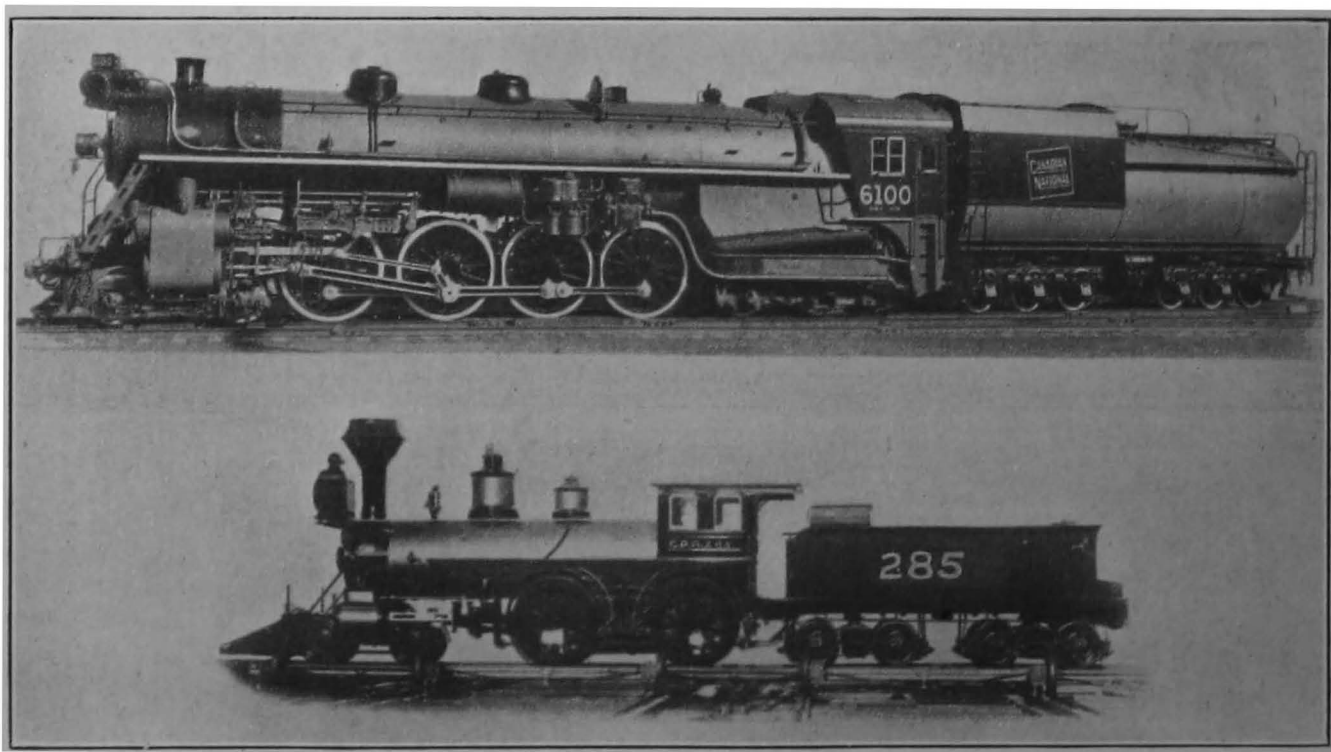
The growth of the industry was therefore rapid. In 1881 there were 5 mills ; in 1891 there were 24, with an output worth a million dollars ; in the next twelve years the production increased five-fold, and since then the expansion has been regular and rapid except during the depression of 1920. The volume of pulpwood cut in the forest rose quickly, but whereas in 1908 about two-thirds of the cut went to the United States, to-day two-thirds of it is worked up in Canadian mills, and the proportion is steadily growing. United States production did not increase very much after 1915, but the Canadian output rapidly expanded, till in 1925 it exceeded that of its neighbour. In that year over a hundred mills were at work, and their product was worth nearly \$250,000,000. Many new plants were being built in Ontario and Quebec, while in some other provinces paper was being made or mills were being erected.

*Growth of Manufactures.* Of general manufactures little need be said, except that the range of goods made in Canada grew wider and the factories grew larger. The greatest success came in industries which were handling the country's primary products, such as milling, meat-packing, cheese and butter-making, canning, wood-work and metal-smelting or refining. Other successful lines of development were the production of agricultural implements, the manufacture of metal articles required for domestic and construction purposes, and the making of vehicles. The production of cotton fabrics grew steadily from the adoption of the National Policy, as did the manufacture of clothing, but the weaving of woollen and worsted fabrics did not meet with such great success, in face of keen competition from the older industry in Yorkshire. Miscellaneous products, such as furniture, jewellery, musical instruments, electrical

equipment, carpets, paint, leather and rubber, all came increasingly from Canadian factories, and in some of these lines the country came near to supplying its own needs and even to finding a market abroad. Even shipbuilding revived somewhat, but this time the vessels were built of steel. One industry, that of making vehicles, naturally grew to great size in a country where land transportation is so important. The new railroads called for more rolling stock of all kinds and of greater size, for they sought economy through the hauling of long heavy trains with powerful engines. Gradually bigger engines had to be designed; the latest type weighs 300 tons and, running eastward on the easy grades from Toronto to Montreal, can haul a train of a hundred freight cars weighing 3,000 tons.

*Automobiles.* The automobile industry began in Canada in 1901, when a Toronto bicycle firm made a few cars. In the following year another Toronto firm put an electrically-driven vehicle on the market, but with little success. In 1904, Mr. Ford decided to erect a Canadian plant at Walkerville, and his output for the first year was 117 cars. Four years later, the McLaughlins, who had been building up a large production of buggies and sleighs at Oshawa since 1878, put their first cars on the market. Thus by 1908 motoring had entered "the springtime of its popularity in Canada" though people were not yet sure whether it was "a sport, or system of locomotion"; and there were available Canadian-built cars ranging from the four-cylinder Ford "jaunty runabout", which weighed less than half a ton and cost \$750, to the "lordly landaulette", with six cylinders, offering any speed "from a walk to 60 miles an hour on the throttle", and costing \$3,500..

From these beginnings the industry grew rapidly, as United States firms established more branch factories in



**One of the first Canadian-made locomotives and one of the latest, scale approximately equal**



An early advertisement (1905) of a "Made in Canada" car, which reads: It has power, good lines, is luxurious in finish and appointments, but best of all it can stand the rack and wear of Canadian roads. Specification: 12 to 14 h.p., double cylinder opposed engine, 90" wheel base. Price \$1,500.

Canada. At first these plants assembled parts sent from across the border, but gradually the making of some of these parts was undertaken in Canada. Hence the importation of complete cars diminished relatively in importance, and in 1926, 30,000 cars were imported, but over 200,000 were made or assembled in the country. Since most cars bought in Canada are purchased during the five summer months, the factories gave especial attention to developing export markets in order to keep them busy all the year round, and some of the branch factories were established to cater for the overseas market—especially in the British Empire—as well as for the local buyer. To-day one car out of every three made here is exported, and the export value of cars and accessories is exceeded only by those of grain and flour, pulp and paper products, and wood and wooden manufactures. As producer and exporter of automobiles Canada ranks second to the United States.

*The Influx of Capital.* In east and west alike the expansion of the past thirty years has been due in large part to the energy of the native-born Canadian and the immigrant. But much of it was due to the influx of capital and plans from abroad. The capital came in two streams, one from the south and one from Europe, and these streams went into different channels after entering the country. British capital had played the chief part in building the Grand Trunk and the C.P.R., and in supplying loans to public authorities. The British lender, through long experience in many lands, had learned that it was safer to lend for a low but sure interest than to risk his money in ventures which *might* pay large dividends, but which, on the other hand, might pay nothing at all. He had burned his fingers in mining ventures in different parts of the world, including Canada, and so would have little to do with Canadian mining fields. He preferred to stick to government and municipal loans, or to the bonds and shares of railroads, power plants, and other public utilities ; but if he was venturesome, he might invest in western lands, especially town sites, or the bonds of well-established industries. Hence by 1910 it was estimated that about \$1,800,000,000 of British capital had been invested in Canada ; but of this, about nine-tenths had gone to governments, railroads, municipalities, and street-cars. In that year, 57 Canadian loans were floated on the London market, and between 1910 and 1914 the total British investment rose to probably \$2,500,000,000.

The United States investor was more audacious. With the example of his own country's expansion before his eyes, he believed that history would repeat itself, and he was willing to risk much in order to get the benefits of that repetition. He knew that the prairies would grow as his own prairies had done, that land would increase in value, that goods of all kinds would be wanted

and that there would be a wonderful market out west. He "guessed" that Canada's supplies of raw materials would be needed as the Dominion advanced and as his own country's supplies became depleted. Or he saw that by establishing a branch factory in Canada he could jump the tariff wall, get cheaply into the expanding Canadian market, and thus profit more than if he made his wares at home and sent them north. Besides, people were talking about imperial preference, and were urging that goods produced in one part of the Empire, say Canada, should be admitted into other parts of the Empire, say Great Britain, at a lower tariff rate than was charged on goods from other countries. Even as early as 1902 some Canadian journals were saying "If the English people ever established a preference in favour of colonial products, what a boom it would give to Canadian industries"; and some United States manufacturers saw that it would also give a boom to their plants situated inside the ring-fence of the Empire.

United States capital therefore went chiefly into the prairies, into branch plants, into new industries, and into the exploitation of raw materials. Capitalists from Chicago, Duluth, and Minneapolis formed the Saskatchewan Land Co., in 1902 to buy a million acres of land; American capital built up the ambitious group of industries at the Soo, and reorganised the coal and iron industries in Cape Breton; it brought large-scale logging into the British Columbia forests, and found a great prize in the pulp and paper resources of the Dominion. Sometimes a factory which already existed in Canada was absorbed in an international trust or merger, but in many cases American firms built new plants. By 1914 there were at least 200 branch factories at work. Hamilton had fifteen, of which the chief was the big harvester works; Montreal had nineteen, Toronto sixty-three, and many smaller towns boasted



one or two. Peterborough became one of the Canadian homes of American producers of cereals and electrical equipment, while Oshawa grew to be the outpost of the biggest automobile organisation in North America.

Still, in 1914, the United States was a small investor when compared with Great Britain ; there was about £1 of British capital for every American dollar invested in the country, and in 1913 three-fourths of the Canadian new bond issues were placed in London. The war changed the whole position. It cut off the flow of loans and investments from London ; even to-day the stream has not begun to flow again in more than the merest trickle. Canada therefore had to turn elsewhere for her supplies of private capital and public loans. In part she turned to the United States, and borrowed more heavily in New York. This added to the northward flow of capital, and after the war private investment, as distinct from loans to governments, came into Canadian industry in greater force than ever. In 1927 there were in Canada 1,400 branches of American plants; the leading nickel, harvester, paper, rubber, electrical equipment, and motor plants were under control, while the sum of money lent to governments had become so great that the total American investment is now much greater than that of Great Britain.

But the war taught Canada to lean more on herself for her new needs, and she discovered that she could raise a lot of money within her own borders. Hence, whereas in 1913 the country placed only one-eighth of its new bond issues at home, it raised nearly the whole of them there at times during the war, and to-day meets about half of its requirements out of its own pocket. Probably 60% of the capital invested in manufactures is owned by Canadians, but so long as the United States has large sums looking for investment, so long will the stream of capital continue to flow from the south.

In conclusion, let us see where all the (4) **Foreign Trade** growing volume of goods went, and what Canada got for it in return. Of every three dollars worth of goods produced to-day, one goes abroad, the other two are consumed at home. These two represent the great variety of farm, factory, and other commodities produced within the Dominion, and the label "Made in Canada" now appears on many more goods used in the daily life of the people than was the case at the beginning of the century. Canada was described at Confederation as having length but not breadth; her lumber and mining camps in the east and her northward spread of farming in the west have given her some geographical breadth. In the same way she has gained greater breadth in production; she produces more of more kinds of commodities.

*Exports.* The *volume* of exports has grown probably four-fold since 1900, and the *value* eight-fold. This growth is explained chiefly by the greater outpouring of agricultural and vegetable products and the rise of the trade in wood and paper. These groups of commodities comprised 36% of the exports of 1900, and 70% of those of 1926, and thus show the influence of paper and prairie on the trade expansion of the country. Over three-quarters of the value of Canadian exports is made up of a relatively small group of products which are either exported in their raw state or passed through certain processes and then sent abroad. Canada's business as an exporter is that of a feeder; she feeds people with her wheat, flour, meat, fish, fruit, and dairy produce; she feeds printing presses, metal-workers, and joiners' shops. But the export of other manufactured articles has grown; the automobile is the outstanding example, and there are other products which are going in increasing quantity from Canadian factories.

*Imports.* We can divide the volume of imports into two parts. The first consists of the normal supply of articles which the country would want under any circumstances, because it cannot produce them itself for climatic reasons, or because it has not yet the necessary productive equipment, or because, in spite of tariffs and transportation costs, it can buy less cheaply at home than abroad. Climate decrees that Canada must always import all her raw cotton, silk, sugar, tropical fruits, winter vegetables, tea, coffee, cocoa, and rubber. Unless a cheaper way is discovered for transporting coal from Alberta or Nova Scotia to the centre of the Dominion, coal for Ontario will probably always have to be imported from Europe or the United States. And until Canadian metal works and factories are sufficiently numerous, varied, and developed, some manufactured wares will be bought abroad because Canada does not make them or because other countries make them better or more cheaply. All these causes lead to the large importation of many kinds of commodities, which can be regarded as payments for the things Canada sends abroad.

The second part is made up of the capital which is sent to the country on loan or for investment. Although the picture is not quite an accurate one, we can think of the lenders sending us blast furnaces, machines, steel rails, factories, electrical equipment, engines, public buildings, etc. And alongside this picture we can imagine another one of Canada paying interest and profit to the lender or investor by sending him wheat, flour, lumber, paper, automobiles, butter, and so on ; and those payments now amount to nearly \$400,000,000 a year, or one-third of all the goods we export. But to get back to our first picture, it shows us that when Canada was drawing heavily on foreign capital her imports were very large, and were much bigger than her exports. Consequently the boom period before the war

saw Canada importing far more than she exported, and at the height of the movement in 1913 she received goods worth \$190 for every \$100 worth she sent away. But with the outbreak of the war and the stoppage of supply of British capital, the position changed rapidly; the inward flow diminished, while Canadian produce was wanted in the largest possible quantities for the Allied forces. In 1916 Canada exported more than she imported. On only about five previous occasions since Confederation had this happened; but with one exception it has happened year after year since 1916. Canada therefore to-day has a "favourable balance of trade", but if there was any revival of the large importation of capital, that balance would probably become "unfavourable".

*Direction of Trade.* The Dominion government has persistently tried to influence the direction of foreign trade in three ways. (1) In 1897 it began to impose lower tariff charges on British goods than on those from elsewhere, and during later years treaties were made with most other self-governing parts of the Empire, by which each party promised the other lower duties on certain specified articles. But, with the exception of one or two commodities, such as automobiles, lumber, and paper, the goods Canada wants to export are the same as the other Dominions produce, while the articles the other Dominions wish to sell abroad are already produced in Canada or can be obtained more cheaply in the United States. Canadian dairy farmers do not like to see Australasian butter coming into their market, and Canadian manufacturers feel that a preference to British manufacturers gives added strength to an already powerful rival. Imperial preference is therefore full of difficulties and, apart from the privileges extended to Great Britain, and the treaty with the West Indies,

thirty years of discussion have produced very little result.

(2) The government tried to spread Canadian exports over a wider area of the world by putting trade commissioners in different countries ; these commissioners would see what possible markets existed for Canadian products, and forward the information to Ottawa for distribution throughout the Dominion. By 1912 there were trade commissioners in thirteen countries ; to-day they are in nineteen countries, and have played a large part since the war in introducing Canadian merchandise to new customers.

(3) Reciprocity with the United States came to an end in 1866, but the hope that it would be revived was never far from the front in many men's minds during later decades. Both Canadian political parties were willing to go far in order to reach agreement with Washington, for such increases in the United States tariff as took place in 1890 and 1896 hurt those Canadian industries which found markets south of the border. But nothing happened : the pilgrims to Washington met with rebuff. After 1900, however, when prosperity came to Canada, reciprocity was almost forgotten, for there was now no need for it ; evidently there were other ways of opening the cave of wealth than that of crying "Open, Sesame!" to the United States market. But on the other hand, feeling in the United States grew much more friendly towards Canada ; the value of Canadian markets and raw materials was realised, and reciprocity became much more desirable in the eyes of Washington. This time the United States president took the initiative, and the pilgrimage headed now for Ottawa. There the Laurier government gave the proposals a favourable reception and agreement was reached in 1911. But the Canadian electors rejected the whole plan at the election of that year, partly because they were now strong

enough to do without it, partly because they feared it was a stepping-stone to annexation, partly because they thought it would weaken the connection with Great Britain, partly because they suspected it would expose Canadian industries to fiercer competition, and partly because the decision, being made at an election, was made on party-political lines. Since then, reciprocity has slumbered, and perhaps may never again awake.

In view of these efforts on the part of the government, where have the main channels of foreign trade run? The following tables tell the story in outline :

Where Canadian Exports Went to.

YEAR	U.K.	U.S.A.	OTHER COUNTRIES
	%	%	%
1896	57	34	9
1914	50	38	12
1922	40	40	20
1925-6	38	35	27

Where Canadian Imports Came From.

1896	31	51	18
1914	21	64	15
1922	16	69	15
1925-6	17	65	18

From these tables we learn several things. (1) The United Kingdom and the United States combined have for thirty years supplied us with over four-fifths of our imports, and the proportion we draw from elsewhere stands still. They also take three-fourths of our goods, but thirty years ago they took over nine-tenths ; so our export trade has been spread over a wider field of smaller customers, who in 1926 took more than a quarter of what

we had for sale. That field includes every country in the world, but the only important customers are the British Dominions, France, Germany, Japan, the Netherlands, South America, and the West Indies. These countries come to Canada for the materials which are not found in their lands, *e.g.*, Japan is deficient in certain mineral deposits, South Africa is a poorly-timbered country, Australia has few soft-woods or pulp-woods, and Canada is one of the few countries which produce high-class furs. Or they come to Canada to supplement their own food and mineral supplies, or they want the North American types of agricultural implements and automobiles.

(2) The gain in exports to the smaller countries has been accompanied by a decline in the proportion going to the United Kingdom. This is only a decline in *proportion*, not in volume or value, and the British Isles remain the largest market for Canadian food products.

(3) Since 1896 the United Kingdom has, in terms of percentages, lost its hold on the Canadian market, while the United States has strengthened its grip. This development was apparent before the War, but has been much more marked since 1914, and to-day the United States supplies two-thirds of Canada's imports, while the British Isles contribute less than one-fifth. There are several reasons for this. The War was a temporary cause of loss to British exporters, for they had no goods to spare for the Canadian market. The permanent causes are more important. Great Britain is no longer the workshop of the world; since 1900 the United States has become a big exporter of manufactured wares. Her nearness to Canada gives her a big advantage in advertising, in lower freight costs, and in sending out travelling salesmen, while Canadians want the same kinds of goods as do her own people, since tastes and standards are much alike on both sides of the border.

Further, the United States is the natural supplier of coal, oil, gasoline, semi-tropical fruits, cotton and tobacco, so a large part of the imports consists of fuel and raw or semi-manufactured materials, *e.g.*, automobile parts which are sent to be assembled in Canadian factories. British imports, on the other hand, have usually been fully finished articles which have had to bear a heavy duty, which have not always met Canadian requirements as well as did the American article, and which have been displaced by the rise of Canadian factories or the competition of the American rival. Even when London was lending lavishly in the early part of the present century, Canada did not spend all the money on British goods, but used a lot of it to buy American wares.

**Supplementary Reading.** Students should read some Canadian Geography, such as Cornish, "Canadian School Geography" and some Canadian history, such as that by W. L. Grant, to give the general setting for economic development. There is no Economic History of Canada available, but valuable chapters by Shortt, Skelton, and others will be found in "Canada and its Provinces". See also Skelton, "The Railway Builders"; Trotter, "Canadian Federation"; Mackintosh, "Agricultural Co-operation in Western Canada"; Knowles, "Economic Development of the British Overseas Empire", vol. 2; Jackman, "Economics of Transportation"; MacGibbon, "An Introduction to Economics for Canadian Readers" chapters 7, 11, 13; Langton, "Early Days in Upper Canada". Teachers should also consult the annual business reviews published by the leading daily papers, the Financial Post Survey (annual), the Canada Year Book, and the current publications of the Natural Resources Intelligence Service (Dept. of the Interior, Ottawa.) Valuable maps will be found in the Historical Atlas of Canada (Nelson).



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