EUROPEAN STUDIES

teachers' series

12

CONTENTS

Published under the auspices of the Centre for Contemporary European Studies, University of Sussex

In association with the European Community Information Service

European studies, 12, 1971.

European economies 1919-1939

The totalitarian states

The World Slump which started in Wall Street in 1929 had repercussions on the economies of all the developed countries of the world. In all there had to be far more governmental regulation, and, in particular, the erection of protectionist tariff barriers. In Germany and Italy state control went much further than in the European democracies: political intervention became overt control; they became autarkies and previous national pride became fierce economic and political nationalism which led inevitably to war.

I. Nazi totalitarianism

By the end of 1932 Germany found herself in a very bad position economically, largely because of the withdrawal of foreign capital from Germany and her heavy indebtedness to foreign creditors. Brüning's measures had not been successful for the reduction in production and the restriction of foreign trade resulted in six million unemployed. Hitler became Chancellor in January 1933 because he promised that he would find work for the unemployed and rebuild the economy without inflation. The Nazi programme of 1921 had been a socialist one, but that had long been jettisoned for Hitler realised that he needed the support of the industrialists. The left wing of his party were sacrificed in the "Night of the Long Knives" in June 1934 and his new measures were totalitarian.

Labour Front

In May 1933 the trade unions had been declared illegal and instead a Labour Front was set up: a State Trade Union with fourteen regional organisations, each controlled by government-nominated officials. The rights which trade unions had won in the past disappeared, for strikes were made illegal and wages were fixed by the State. Agreements on working hours were broken, e.g. in the armament industry a ten-hour day was restored.

State control of industry

A government department, divided into six sections for different types of production and working through regional bodies all staffed by party nominees, controlled each private enterprise with production programmes and prices fixed by the State. There was a kind of "New Deal", but the overriding aim was to make the State strong militarily. There was reorganisation to concentrate in larger units and encouragements such as tax reductions and a policy of big profits. In the armament industry (mainly Krupp) the 3.6 per cent dividends of 1933 became 18.6 per cent dividends by 1939.

State control of agriculture

Agriculture according to Hitler was the "wet nurse of the people" and provided "the life blood of the nation", metaphors which linked together proved to be singularly apt. Because of his previous promises to the farming community they had largely supported his rise to power. Now he asked of them that they should feed entirely a growing population, to make Germany independent of the importation of one-third of her food which had been necessary in the past.

A Food Corporation was set up with regional and local groups, all controlled by party nominees, and all food producers and middlemen were compelled to belong to it. Markets were reorganised, prices fixed, production schedules enforced, processing controlled and the industrial requirements of farmers provided. There were drainage and irrigation schemes and marginal land was brought into production.

A law was introduced which linked small farmers, with holdings of less than 120 hectares (300 acres), directly to the State, providing them with the opportunity of obtaining government loans and security of tenure. However, the farmer was told exactly what he had to produce and he could not dispose of his holdings wholly or in part without government permission. On the whole, the small farmers were very satisfied for the prices of farm products were raised to the level of industrial prices and stabilised, and so farmers' incomes were higher.

Financial controls

Control of banks

The government closed all banks to avoid further panic in 1931 when the Danat Bank (formed by a merger of the Darmstaedter Bank and the National Bank) had to suspend payments. They were only reopened with state permission, the government guaranteeing their deposits and in certain cases lending money to bolster them up.

By 1934 the government controlled two-thirds of the banking network and there was a government official on the Board of every bank. The government controlled the Danat Bank which merged with the Dresdner. By redeeming short term loans which banks had imprudently lent to industry, the State became a shareholder in many industrial concerns.

The Central Bank remained a private institution, but the President and Council were nominated by the government and carried out its instructions, having the sole right to issue currency and the task of controlling the exchange of foreign assets.

Control of credit

Hitler's aims were to end unemployment, to put to full use all the productive capacity of Germany and

to build up her military strength. He relied on the expertise of Doctor Schacht to encourage industry, and particularly the armaments industries, by credits but at the same time avoiding inflation. A company was set up by the Reichsbank and the four largest armament firms called the Metallsforschung GmbH. This issued bills of exchange with which industrialists were paid for work done for the State. These bills of exchange were guaranteed by the government and could be redeemed through the banks. Thus new credit was injected into the economy, production increased and unemployment much reduced, but at the same time because the amount of currency in circulation was restricted, inflation was avoided.

Control of wages and prices

Wages were kept low to avoid a rise in price of the scarce consumer goods which were kept in short supply as a matter of government policy. In fact, the real income of those who had not been unemployed fell during this period. The discipline of the people meant that not only did they accept these shortages but also they saved. There was compulsory saving for 15 per cent of each wage, which was collected by the Labour Front, the State Trade Union, to be paid out in the distant future in the shape of a "people's car", but in addition there were other savings schemes which were well supported, for example, the sale of government bonds which paid tax-free interest if they were not redeemed for a certain fixed period.

Taxation was very heavy: in 1933 it amounted to 12 per cent of the wage bill, in 1936 to 17 per cent, and in 1940 to 26 per cent. The budget deficit was turned into a surplus in the early years, but government expenditure grew so rapidly (1933: 8 milliards of marks to 1940: 48 milliards) that by 1938 there was again a deficit which the government sought to defray by short and long term loans. The national debt which was 11 milliards in 1933 was 48 milliards in 1939.

Full employment

The Nazi policy seemed to be successful: the 8 million unemployed in 1933 had dwindled to 400,000 by 1938 and there were none by 1940. Not only had the unemployed been absorbed by the expanded industries but also by public works: construction of about 2,000 miles of motorways, aerodromes and, from 1936, the Siegfried Line. At the same time the increasing power of the Party and of the Army led to employment of one million in 1939 for the Party and about the same number for the Army by the beginning of the War.

The reorganisation of foreign trade

In spite of the Hoover Moratorium and the attempts by Chancellor Brüning, at deflation, Germany's gold reserves which had been 3.3 milliards in 1929 were down to 700 millions in January 1933. The conference of Lausanne ended the paying of reparations but not the repayment of sums borrowed under the Dawes and Young Plans. Devaluation was not possible because of the large sums borrowed from abroad in 1930 and 1931 and because of the large amount of foreign investment in Germany undertaken previously.

The government's first step was to get control of the foreign assets of German citizens to offset foreign payments, and helped by the confiscations from Jews, this was quite successful.

Secondly, ASKI accounts were set up whereby foreign creditors were paid off in these blocked marks which could only be spent on German goods, thus boosting German exports. Both the United States and Britain refused to accept ASKI marks and so working through a system of licensing which was in the hands of the Reichsbank, imports from these countries were reduced and more so when their protectionist policies cut down their imports from Germany. Her trade increased with those countries which would accept ASKI marks, principally in Central Europe and South America, which found traditional trade with Britain disappearing as the result of imperial preference. Germany was able therefore to obtain a certain amount of raw materials and food in return for manufactured goods.

The system of licensing of imports meant that with each particular country imports and exports were balanced to avoid the movement of capital. This worked very well for trade with Brazil, Chile, Greece, Yugoslavia and Rumania, and although there was a small trade deficit with France there was a good surplus in trade with Italy.

Substitute products

Germany was short of certain basic raw materials and foodstuffs and needed to import a great deal. Two-thirds of her iron-ore came from France, Sweden and Spain, all her bauxite and most of her other non-ferrous metals, most of her petroleum, many textiles and all her rubber came from abroad. Hitler saw that he would have to build up stocks of raw materials if he was to wage war successfully. There were elaborate schemes for the recovery of materials; the very poor deposits of iron-ore in Central Germany were expensively developed by the new *Hermann Goering* Steelworks; the firm *Farben* made 500,000 tons of synthetic petrol up to the outbreak of the war; the *Buna* synthetic rubber was made from 1937 onwards; there was the development of man-made fibres and various substitute foods were developed, including ersatz coffee made partly from acorns.

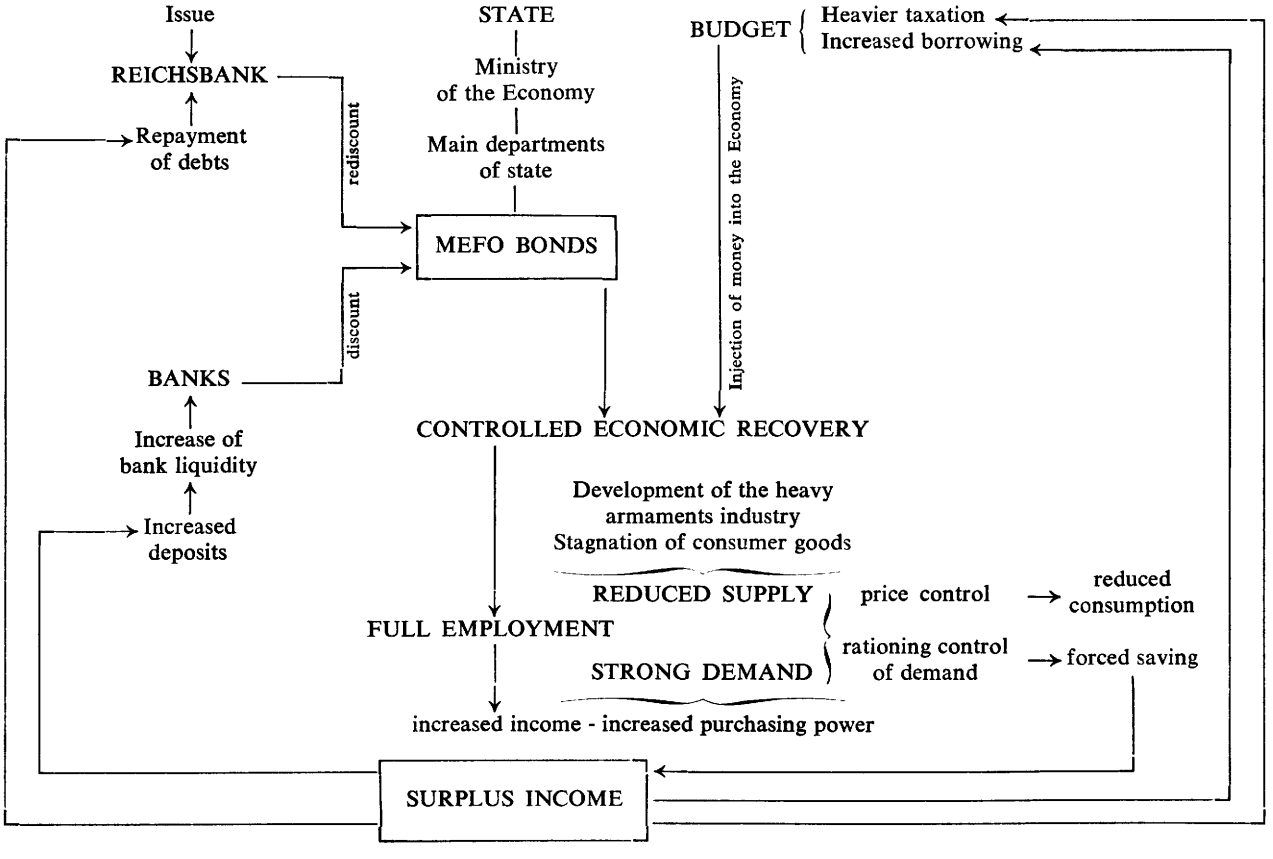
Germany's comparative success

There was tremendous industrial expansion after the slump: with the index at 100 in 1929, it was only 60 in 1933 but up to 140 in 1939. Most of the increase had been in the armament industries and by 1939 Germany spent 21 per cent of her national revenue on arms, compared with the 7 to 9 per cent spent by France, the USSR and Britain. The rapid increase in production can be seen from the following:

	1932	1939
Coal	100 m.t.	190 m.t.
Steel	5 m.t.	23 m.t.[a]
Iron-ore	2 m.t.	15 m.t.
Aluminium	15,000 tons	200,000 tons
Motor vehicles	50,000	350,000

[a] USA: 29 m.t., URSS: 21 m.t., UK: 13.5 m.t., France: 6.3 m.t.

The financial circuit in Germany 1934-1939



The establishment of exchange control in Italy

"The balance of trade situation is bad... How should this situation be met? ... If we do not keep our internal prices and our costs in step with the costs of world production, we cannot hope for a revival of our trade. The necessary equalization can only be effected either by internal restraints on prices and the cost of products, or by devaluation of the currency. And as we have already rejected the second of these alternatives, because we believe all countries will be obliged to return to gold and because flexible currencies cannot last for ever, it is on the first possibility that we must concentrate...

Let us come, now, to a delicate question. When no goods are exported, who pays for the goods which we are obliged to import? For import we must. Let us have no illusions about our self-sufficiency as a nation. Thanks to the prodigious advance of science, all modern nations are able to claim a measure of self-sufficiency. But we, pending proof to the contrary, need to import liquid fuel. We are prospecting to see if there is oil in the country. If there is, we shall develop it; if there isn't, we shall resign ourselves... Coal, liquid fuel, wool, cotton, iron: five commodities that weigh in the scale of imports. We can reduce the figure, but not by much. Now, the balance—the balance of trade—must be settled with goods or with services or with gold... We have suffered a drain of approximately 700 million lire in gold. Positive factors account for about two thirds of this draining away of our reserves. A third, however, is due to certain gentlemen—all the more despicable in that they are "gentlemen": they have lately taken to speculating in banknotes, which we have been obliged to buy back in foreign markets. We are today taking measures against them.

Under two decrees in course of promulgation no currency exchange transactions may be carried out unless they correspond to a real need in trade or industry, or are required for the purposes of foreign travel. The export of banknotes or cheques is prohibited, as is the acquisition in foreign markets of foreign and Italian securities issued abroad..."

Speech by Mussolini
in the Chamber of Deputies, 26 May 1934

On the IRI (Institute for Industrial Reconstruction)

"During and after the war, banks of Italy ceased to engage in banking... On the contrary, the Italian banks —perhaps with the aim of assisting industry—suffered from a serious surfeit of industrial shares, shares whose rating on the stock exchange had collapsed.

What happened then? This plethora of shares was unloaded onto an Institute, previously designated "for liquidation" and now called "for industrial reconstruction". This Institute has two sections, one which I shall call the "hospital" section and the other the "convalescent" section, and thanks to this measure all the banks are today able to start banking again..."

Speech of 26 May 1934

However, Germany was still dependent on foreign sources for all her bauxite, manganese and nickel; for 80 per cent of her copper; 70 per cent of her iron-ore; 65 per cent of her petrol and rubber and 50 per cent of her textiles. Even though in Goering's phrase it was to be "guns before butter" and even though, for example since 1933 potato production had increased by 30 per cent and the production of sugar beet doubled, 20 per cent of her food was still being imported in 1939.

Industrialists and farmers were happy but other workers and professional people were worse off than in 1933, for although prices had been kept fairly stable, having risen by only 8 per cent, wages and salaries had been allowed to rise by only 2.5 per cent.

By 1939 there were ominous signs and Dr. Schacht, the minister of economic affairs, handed over to Dr. Funk, although the guiding hand was to be Goering's. There was a serious risk of inflation, for the amount of money in circulation had risen from 4.7 milliards of marks in 1933 to 14 milliards in 1939, although the amount of consumer goods produced had increased by only 20 per cent in the same time. The mark only kept its value abroad because Germany was isolated in trade from the chief markets and the ASKI marks were a device to hide the devaluation which had in fact taken place. Wages and prices were kept fairly stable only because of government control of industry which prevented strikes. By 1939, Germany's gold reserves were very low—she had a huge national debt and the budget deficit had reappeared.

For Hitler war was not only possible (since he had the war machine ready), but it became necessary and particularly so when countries would no longer accept payment in ASKI marks: Germany needed to occupy territory where the products would rapidly complement Germany's, before other countries were ready for war too.

II. Italian state control

During the War, as in the other European countries, the amount of money in circulation rose tremendously from 3 milliards lires in 1913 to 22 milliards in 1920, and of course there had been the resultant inflation. Italy had an adverse balance of trade, and there were other causes of discontent, chiefly the Peace Treaty which deprived Italy of Istria and the Dalmation Coast, and the inability of the government to cure unemployment, to fit ex-service men into civilian life, or to settle the agrarian problems of the South. Thus the discredited government could do nothing to prevent the Fascists from coming to power in 1922.

Mussolini's monetary policy

Mussolini had some success in consolidating the national debt but he did nothing to control the banks who allowed too much credit. If anything, Mussolini aggravated the situation, when in 1926 he started a vigorous policy of deflation: the Bank of Italy was to control credits allowed by other banks and was to have the sole right to issue currency, prices were to be controlled by law, the amount of money in circulation was to be reduced and the budget was balanced. Foreign speculative capital came into the country and the government was able to borrow from American banks for public work schemes.

Control of the economy

Until the World Slump, the Italian Government did not interfere very effectively in the economy. New public works such as the motorways and new building in Rome were for prestige rather than economic reasons. There were subsidies for exports to avoid the handicap of high prices which came from an overvalued currency. It was only the creation of a public enterprise, AGIP, for refining and undertaking research in petroleum products, which presented some innovation.

In 1925, the "Battle for Wheat" was started, an attempt to step up production, in the main by credits to speed up the adoption of new techniques, but this was really a continuation of pre-fascist policies. The new ideology was bound to have an effect on trade unions since individual rights were to be submerged in the general good. To begin with, in 1922, employers' and employees' associations were merged in the party organisation. In 1925 by the Palace Vidoni Agreement between the State and the confederation of Italian industries, industrialists were to recognise only fascist trade unions; in return the right to strike was withdrawn and all labour disputes were to go to arbitration. The Rocco law of 1927 set up a state system of social insurance against sickness, accident, unemployment and old age, financed by levies on employers and employees, with a contribution by the State In this so-called Charter of Labour, conditions of work were laid down including rates of pay, hours of work and holidays.

Corporate organisations

A basic feature of fascist ideology was that class warfare would be replaced by community unity and action: there was to be the fruitful cooperation of all producers under the paternal surveillance of the State. In 1930, the National Council of Corporations was set up, presided over by Mussolini. There were seven divisions, one for each field of economic activity, e.g., heavy industry, agriculture, commerce, transport, banking. Each had a council of members nominated by the party and representing employers, employees, ministries and the Party itself. The National Council was the policy-making body, deciding schedules of production, controlling imports, and fixing prices. In 1934, twenty-two corporations were set up in various industries, again with councils of nominated members representing employers and employees. The State trade unions were organised in provincial associations, federations and nine national confederations, and at each stage government nominees were in charge. Mussolini could boast that the State controlled all the actions and thoughts of all Italians from birth to death. Not only was the economy under strict control but leisure persuits were organised by a special organisation, the "*Dopolavoro*". Also, all young boys were in paramilitary organisations, the "*Babillas*", "*Avanguardisti*" and Italian Youth, catering for them from the age of eight until the age of military service.

In the period until 1929, people were reasonably content: there was security although they had to accept a gradual lowering of real wages.

The world crisis

Italy was affected earlier than France or Germany because her devaluation in 1927 had not been enough and therefore Italian exports were priced too highly abroad. The invisible exports which had made up for the trade deficit shrank for there were far fewer tourists, and also many of the Italians abroad were out of work and could not send money home. There was the flight of capital from Italy and the gold reserves which had been 12 milliard of lire in 1929, by 1934 were only 7 milliard.

Like France and Germany, Italy refused to devalue and chose instead a policy of rigorous deflation. However, the fall in prices in Italy did not match the fall in world prices, industrial production declined and by 1932 six per cent of the work force, i.e., 1.3 millions, were unemployed, leading to a lowering of consumption on the home market, which in turn meant even lower production and thus more unemployment.

The setting up of the IRI

There was a banking crisis because of the withdrawal of deposits. The banks called in their short term loans and therefore many businesses were tottering. In 1930, as an interim measure, there were special credits to the bigger banks to help them to reassure their depositors.

In 1931, the *Istituto Mobilare Italiano* was set up to provide long term loans to industry. With the provision of state capital, the Bank of Italy became a semi-state institution with government-appointed nominees on the board, while the control of the Bank of Italy over the other banks was made much stronger.

But the main action taken by the government was the creation of the IRI (*Istituto per la Ricostruzione Industriale*), a public enterprise obtaining its funds from the State and from loans with the aim of centralising the industrial holdings of the banks and to make long term loans to industry. This was a crisis measure and at first the intention was that these state holdings should be sold to the public at the first possible opportunity, but from 1937 onwards this was the method by which the State extended its control over other industries which were provided with more capital for expansion. In this way, *Finsider* (for the steel industry) and *Finmare* (for the merchant navy) were set up.

Exchange control

In May 1934 Mussolini decreed exchange control: no capital was to leave Italy and trade was strictly controlled. Imports were to be limited to the barest necessities for civilians, to military requirements and to raw materials which could be processed and re-exported. Because the attack on Ethiopia (which led to economic sanctions by the League of Nations against Italy, although they were not completely implemented) her trade with the United States, France and Britain declined. Her trade with her African colonies increased but, more significantly, her trade with Germany grew, in spite of differences between Italy and Germany over Austria. By 1939, Germany provided Italy with 27 per cent of her imports and took 20 per cent of her exports.

The devaluation of 1936

The policy of rearmament meant even higher prices at home and higher prices for exports. The trade deficit became bigger and by 1935 the gold reserves were down to 5 milliards, or 40 per cent of the 1929 level. The position was aggravated by the devaluation of the French Franc on September 27, 1936, followed by the devaluation by the Netherlands and Switzerland, and on October 5, 1936 Italy devalued by 40 per cent. At the same time the threat of effective economic sanctions pushed Italy more and more towards a policy of autarky: Mussolini saw the need to become more and more self-sufficient for military reasons.

The Battle for Wheat, started in 1925 to try to meet the food deficit, was intensified. The draining of the Pontine Marshes had been started in 1930 and corn production was raised from 5 million tons to 8 millions. The growing of cotton was begun. Small holdings were consolidated, and improved methods were introduced, and irrigation schemes were tried in the colonies.

Italy still lacked raw materials. She made synthetic rubber, increased the mining of coal in Tuscany and Sardinia (the new town of Sulcis grew up), iron ore was exploited in Elba and Tuscany and imported from Franco Spain in return for military assistance in the Civil War, and Italy became one of the world's foremost producers of mercury and bauxite. Through IRI, the State helped the steel and chemical industries, by and large the private consumer's needs were neglected: as with Germany it was to be "guns before butter".

Italy's balance sheet in 1939

The problem of unemployment had not been solved: in spite of a much larger army and the colonisation of African possessions, including Ethiopia, the many public works, the efforts of IRI and the new 40 hour working week, there were still 600,000 totally unemployed and many on short-time working in 1939.

The chemical industry did well, but the total steel production was only 2.3 million tons (Germany: 23 million). Italy had produced 60,000 motor vehicles in 1929, but in 1939 only 10,000 more, and the textile and other industries had stagnated.

Prices had gone up a great deal. The price of wheat rose by 50 per cent between 1934 and 1939, when it was double the price of Canadian and American wheat. Prices generally rose by 70 per cent between 1934 and 1938, when an attempt was made to stabilise prices. The budget deficit rose steadily and there was a greatly increased national debt.

Progress in synthetic materials and the use of recovered materials was not as great as in Germany, and above all nothing had really been done to improve the lot of the people in the impoverished South.

Although by temperament Mussolini would have liked to join early on when the Second World War started, in what seemed to him to be an adventure, his knowledge of Italy's weaknesses made him more prudent. He waited until 1940 when he thought victory for Germany was certain: a mistake which left Italy in a sorry state five years later.

European studies, 12, 1971.

Public enterprises in Britain and the European Community

The most striking difference between public enterprises in Britain and the Common Market is not in the structure of the Corporations themselves, but in the attitudes adopted towards them by ordinary people and political parties.

In Britain people adopt views about nationalised industries with almost religious fervour and, perhaps for that reason, rarely change their views as a result of rational argument. One of the few distinguishing features of the two main political parties, Labour and Conservative, in recent years has been their approach to the public sector. During the years of Labour administration from 1964 to 1970, State intervention in the running of the public sector increased; the steel industry was re-nationalised (having been denationalised under the previous Conservative administration) and State shareholdings were acquired in a variety of industries from computers to North Sea gas.

With all the predictability of a pendulum, the Conservative Government threw this trend into reverse in 1970 and embarked on a policy of disengagement from industry and selling off State shareholdings private industry.

In stark contrast to this, the expansion of publicly-owned enterprises in most Common Market countries has been helped by the relative freedom in Europe of doctrinal controversy about the ownership of industry. In France and Italy, large sectors of the economy are owned by the Government (and to a lesser extent even in Germany in spite of its non-interventionist traditions), yet few acts of nationalisation have taken place as a result of political controversy. There are exceptions—such as nationalisation of the railways by the French Popular Front in 1937—and electricity generation by the Italian Left-Center coalition in 1964, but these were exceptions rather than the rule. Conversely, there have been few acts of denationalisation for political reasons, except possibly in Germany where shares in some State holdings (like Volkswagen) have been sold off. It is, perhaps, surprising that Britain—where pragmatism is so enshrined—should play such havoc with key industries by alternatively nationalising and denationalising.

The reasons for the differences in approach are largely historical—the Labour Party in Britain is steeped in traditions of public ownership—to the extent that every membership card still has printed on it the avowed aim to secure the common ownership of the "means of production, distribution and exchange". Such clear-cut policy is bound to produce in the other party an equal and opposite reaction.

Another reason is that Britain underwent her industrial revolution earlier than the rest of Europe and at that time was able to proclaim lofty principles of free trade from a position of strength. Continental countries, spurred by the need to catch up fast, developed more closely under the protective wing of the State, which erected tariff walls.

At the same time, in France, links between State and Industry were consolidated by what amounted to an "Old Boys" network in the Polytechnics and other "Grandes Ecoles" whose highly trained graduates were to be found in influential posts in private industry and Government departments, often crossing from one to the other.

Such overlapping between the public and private sectors was helped by the fact that the structure of politics produced a multitude of parties (unlike the largely two-party system in Britain) and with one party rarely in sole command, conflicting policies towards the public sector hardly had time to develop.

Size of the public enterprise sector

Reliable figures to describe the exact size of public enterprise activity in Europe, and especially comparisons between individual countries are difficult to come by because of the paucity of up to date statistics. Nevertheless,

it is true to say that public enterprises account for a large and growing amount of investment and a substantial, though less large, proportion of the labour force. The public sector grows partly by making new acquisitions (like the ever-active IRI group in Italy, which is owned by the Government) or simply because the industries in State ownership, such as telecommunications, electricity and steel, are precisely those with high growth rates.

In France, public enterprises, with 12 per cent of the country's labour force, account for over 33 per cent of total investment; in Italy, with 8 per cent of the workforce, they take up nearly 30 per cent of investment, and even in Germany (where some people are surprised to find a public sector at all) they account for over 18 per cent of investment and seven per cent of the labour force. In Luxembourg, public enterprises account for 26 per cent of investment, in Belgium 13.5 per cent, and in Holland 21 per cent.

In Britain, there is a certain degree of controversy in establishing the true size of the public sector and, more especially, how fast it is expanding relative to the private sector. The guts of the dispute can be seen in the following figures which show the share of Public Corporations in the country's stock of capital, expressed as a percentage of the private sector.

1959 . . .	38.8 per cent
1960 . . .	38.5 per cent
1961 . . .	44.5 per cent
1962 . . .	43.7 per cent
1963 . . .	43.6 per cent
1964 . . .	43.7 per cent
1965 . . .	43.7 per cent
1966 . . .	44.5 per cent
1967 . . .	53.0 per cent
1968 . . .	53.8 per cent
1969 . . .	55.5 per cent

On the face of it, these figures show a substantial increase by the public sector—from 38.8 per cent in 1959 to 55.5 per cent in 1969. However, the earlier figure does not contain the Post Office which was reclassified in 1961 from a Government department to a public corporation. This accounts for the sharp rise between 1960 and 1961 which did not reflect any increase in the real size of the public sector, simply a reclassification. Secondly, the big jump between 1966 and 1967 is accounted for by the nationalisation of steel. Thus, it has been argued, that if you compared 1969 with a much earlier year, 1951 (when steel happened to be nationalised) and allowed for the reclassification of the Post Office, a quite different trend would emerge.

Different approaches to the public sector

Although there are big problems in making comparisons, it is probably true that Britain has at least as big a public sector as France or Italy, where State involvement on the Continent is highest. The similarities in size, however, conceal significant differences in the pattern. In Germany, France and Italy there is considerable State involvement in banking, insurance and commerce, yet virtually none in Britain, apart from the Bank of England. In Germany, France and Italy, the State, directly or indirectly is trying to build up a national capability in the oil industry, to which there is no counterpart in Britain—except, of course, the Government's "sleeping" participation in British Petroleum of which it owns 49 per cent of the shares.

Similary there is no counterpart in Britain to the French Government's ownership of Renault—one of the most successful motor manufacturing companies in Europe. In Italy, the State owns 67 per cent of the shipbuilding industry whereas in Britain, even under a Labour Government, the only shipyards which come into public hands are those in dire straits which a somewhat reluctant Government buys out of trouble.

There are other differences. In Britain and France, public enterprises tend to be separate units, while in Italy most of them are attached to three large groups which form the main instrument for controlling the public sector: IRI, a huge conglomerate of public and private capital with interests in steel, engineering, motorways, ships and aircraft; ENEL, for electricity, and ENI for oil and natural gas. In France and Italy, publicly-owned Corporations are used extensively as part of national planning exercises. Italian State industries devote 40 per cent of their new investments, for instance, to the development of the depressed South in a pump priming operation intended to attract private capital in its wake.

French State owned companies like Renault are expected to behave like commercial concerns in their day-to-day operations, but there is deep State involvement in their pricing policies, wage negotiations and investment plans. Sometimes they are used as the unwilling instruments of Government policy as recently when the Government ordered Renault to hand over some of its shares to the workers, in spite of the fact that such a move was not supported either by management or unions, which regarded it as a potential threat to their power of collective bargaining.

One common trend in the approach of Governments to nationalised Corporations is a desire to see them operate as commercially as possible. In Germany, this is easy because the public sector is relatively small and indirectly run through holding groups which are in part privately owned. In Italy, it is encouraged through groups like IRI operating at arms' length from the Government and entering many projects in partnership with private capital. This tends to blur the distinction between the public and private sectors and make quantitative assessments all the more difficult.

In Britain, successive Governments have—rather unsuccessfully—tried to disengage from the day-to-day operations of public corporations, leaving them to get on with the job without time-wasting interference.

History

In general there has been no consistent policy among States of the Community or in Britain towards the organisation or extension of the public sector. It was in order to stimulate new industries before, during or after wars, or in response to economic crises (as witness the nationalisation in 1971 of Rolls Royce in Britain) that most State enterprises were established. The crises of the 1930s spawned publicly owned finance houses and also the injection of public capital into extractive industries like coal, where financial failure could have provoked a chain reaction. This supplemented an earlier round of public ownership in the 19th century of postal and telegraph services where a combination of security and economics suggested a solution involving public ownership. More recently, the demands of regional development or the creation of international joint ventures (like the Concorde) have pushed Government involvement deeper into industry.

Legal characteristics of public enterprises

Public enterprises—that is, concerns in which public authorities have a major share of the capital or management —are found in three different forms in Europe.

1. Enterprises which, however much they may control their own budgets, are really run along the lines of Government Departments. The Stationery Office in Britain would come under this category and so, until its recent elevation to corporation status, would the Post Office. In France, this would apply to postal and telephone services and the production of explosives, coins and medals. In Belgium, it would include postal services and the central supplies office. In Italy, it would cover railways, post and certain State monopolies, and to the Federal Railways and postal services in Germany.

2. The biggest category probably is those enterprises whose ownership is vested in the State, but which in practice operate on private lines. This would include banks, insurance companies and Renault in France, and electricity, gas, coal, Post Office, railways etc. in Britain.

3. The so called "mixed economy" companies in which ownership is shared between public and private capital often through the establishment of limited liability companies. This is the trendiest form of public participation with the biggest prospects for the future. Such a category embraces the German car giant, Volkswagen, in which the Government still has a small stake, the IRI conglomerate in Italy, the French oil company Total, and the companies in Britain in which the Industrial Reorganisation Corporation took a stake. This form of approach is being adopted by the Conservative administration in Britain—though as a means of reducing rather than increasing the public sector. The present British Government is planning, eventually, to make nationalised concerns like the British Steel Corporation to sell some of their shares to private interests, especially in their ancilliary activities.

Employment

It will come as something of a surprise to those who look on Germany as a citadel of non-intervention, to learn that West Germany has more wage-earners employed in the public sector than any other country in the Common Market. Nearly 1.8 million people in Germany are employed in the public sector, compared with 1.4 million in France and less than 1 million in Italy. Germany, of course has a bigger population—60 millions against 53 millions in Italy and 50 millions in France—but this hardly explains the full difference.

Part of the reason is that Germany has a higher proportion (62 per cent) of wage-earners employed in labour intensive parts of the public sector like transport and communications; the average for the Community is 57 per cent.

Germany also has a disproportionately high number of public employees in energy industries compared with, say, Italy which has very few coal mines.

Investment

Tentative figures suggest that the public sector in Europe (relatively) invests much more than the private sector. In Germany, the public sector account for over 22 per cent of all productive investment in spite of the fact that State involvement in manufacturing industry is minute. In France, public enterprises account for nearly 30 per cent of investment. Overall public enterprises account for about a quarter of Community investment. This reflects the deep involvement of public enterprises in areas requiring massive infrastructures like power, transport and communications and the importance which attaches to them in any policy for coordinated European development.

The strength of public enterprises in individual sector

1. Energy and mining

Apart from oil, which is largely in private hands, the public sector dominates in the fields of power and coalmining, with 90 per cent in France, 84 per cent in the Netherlands, 77 per cent in Luxembourg, 50 per cent in Germany, and a little over 50 per cent in Italy. In Britain, there is 100 per cent public ownership of coalmining, electricity generating and gas.

2. Industry

In *France* the Government has control over 55 per cent of the aircraft industry, including big stakes in SNECMA and Aérospatiale; 40 per cent of the motor industry, including all of Renault which in turn has links with Peugeot; 10 per cent of the chemical industry; and also wields effective price control of other areas, including steel.

In *Germany* the State owns over 34 per cent of shipyard production; between 20 and 30 per cent of motor production, including a minority holding in Volkswagen, Europe's most successful car company; 9 per cent of non-ferrous metals; 10 per cent of chemicals; and 5.5 per cent of iron smelting.

In the *Netherlands* the Government has 37.5 per cent of the metallurgical industry and 9.4 per cent of chemicals.

In *Italy*, State involvement in industry is particularly high. The Government owns 66 per cent of basic steel production, including the Finsider group; 95 per cent of the castings industry; well over two thirds of shipyard production; 50 per cent of railway plant production; 30 per cent of electronics; 15 per cent of cement; 90 per cent of synthetic rubber; 22 per cent of aircraft; 21 per cent of petrol refining, and extensive interests also in other sectors.

In *Britain*, the State owns over 90 per cent of crude steel-making capacity; a couple of shipyards; all of the aero engine capacity (through Rolls Royce); a minority holding in ICL, the biggest computer company outside the

United States; a 49 per cent stake in British Petroleum, whose oil reserves are bigger than any other company; and a string of investments in engineering companies resulting from the activities of the now-defunct Industrial Reorganisation Corporation.

3. Transport and communications

Roughly 73 per cent are Government owned in Germany, 65 per cent in France, 62 per cent in Italy, 64 per cent in Belgium, 60 per cent in Luxembourg and 46 per cent in the Netherlands. All postal and telecommunications services, railways and urban transport are publicly owned practically everywhere. The public sector has the lion's share of air transport through companies like Air France, Alitalia, Lufthansa, BEA and BOAC. Ports and airports are generally publicly-owned.

4. Finance, commerce and services

Apart from in Britain, public services have a decisive place in finance. Some 60 per cent of bank deposits in France are made in the public sector through such agencies as the *Banque Nationale de Paris*, the *Crédit Lyonnais* and the *Société Générale*.

Over 52 per cent of the deposits in Germany and 30 per cent in the Netherlands, 50 per cent in Belgium and 55 per cent in Italy are in the public sector. Insurance premiums received by public enterprises amount to 40 per cent of all premiums in France, 25 per cent in Italy, 10 per cent in Germany and 11 per cent in Belgium.

However, in commerce and service industries generally, public enterprises make only a brief appearance.

British public enterprises and the Common Market

Until fairly recently it had been thought that the sheer size of some British public enterprises like the British Steel Corporation would be an obstacle to entry into the Common Market. This is not so. The disappearance of tariff barriers would create increased competition for British steel which would have under one fifth of the market in the enlarged Community. In any case, nationalisation of steel in Britain triggered off rationalisation moves in Europe which has resulted in some very large companies being formed—in Germany for instance—, which are all too capable of providing fierce competition for the BSC.

What the Common Market Commission in Brussels objects to is not the ownership or structure of the BSC (public ownership, as we have seen, is a common phenomenon in Europe) but the deep involvement of the British Government in the affairs of the BSC and especially its policy of cutting back price increases. Provided the Government can fulfill its promise of disengaging in industry there is no reason why Britain's nationalised corporations should not play an active part in the Community's affairs.

Indeed the entry of a strong British public sector could possibly give a much needed impetus to the development of the Community's Industrial Policy which has so far made painfully slow progress. The EEC Commission has far reaching proposals to sweep away non-tariff barriers to trade, harmonise fiscal policies and set about restructuring industry along transnational lines.

Public corporations as such do not figure very largely in these plans at present, except in a negative sense—the Commission wants to see them abandon their custom of only ordering supplies from companies of their own nationality. This is regarded as a big obstacle towards the establishment of a true common market in technology goods.

British nationalised corporations are as bad as any when it comes to "Buying British" as can be seen from the nationalistic purchasing policies of the Post Office and the Central Electricity Generating Board when they buy equipment. But at least, if Britain enters the Common Market, public enterprises will be able to partake fully in the discussions leading to the implementation of an Industrial Policy.

Are nationalised industries efficient?

There will never be satisfactory answer to this question because of the mystical fervour with which the argument is conducted in Britain. Many people still regard nationalised industries as being inefficient almost by definition. Others point to the steady progress being made by countries in Europe towards making them more commercial in their operations and in defining their relationship with the State. The truth is that it is impossible to say that all nationalised industries are, or are not inefficient. This has been the trouble in Britain—the whole argument has been conducted in dogmatic terms instead of trying to encourage what is efficient and discourage what is not irrespective of whether they are publicly owned or not. Thus Renault, a totally nationalised concern, is evidently more successful than most British motor companies, while some nationalised concerns can be shown to be less successful than some private ones.

The following statistics give some indication that nationalised industries have not been lagging behind in attempts to increase productivity—rather the contrary.

Productivity figures 1958-1968

Country	Manufacturing industry	Railways	Airlines	Electricity	Coal
Italy	7.8	2.8	10.5	5.1	—
Holland	6.8	—	10.5	—	4.7
Germany	5.9	4.7	10.7	7.6	7.1
Belgium	5.4	4.1	4.2	10.4	5.9
France	5.2	3.3	7.6	7.3	3.1
UK	4.0	4.6	9.8	7.7	5.9

Source: Richard Pryke, University of Liverpool.

These productivity figures measure increases in traffic per man hour in railways (1958 to 1968), output per man hour in manufacturing industry, increases in passenger miles per man year with airlines, sales per man hour in electricity and increases in tonnage per man hour in the case of coal.

It can be seen from this table that British nationalised industries compare very favourably both with manufacturing industry in Britain and with public enterprises in other European countries. Whereas manufacturing industry in Britain (which is mainly privately-owned) is at the bottom of the table, public enterprises are near the top. This, at least, should provide some consolation to Britain as she girds her loins to meet the challenge of the Common Market.

European studies, 12, 1971.

Brittany

New patterns of trade and production created by the advent of the EEC have undoubtedly accentuated the problems of peripheral regions like Brittany. Situated at the "finis-terrae" of Europe, Brittany has nevertheless striven to transform its image as an exporter of population and as an economic backwater. The forces of regionalism have proved strong in this region where defence of a separate culture has been reinforced by real economic grievances. A vigorous campaign from within the region in the immediate post-war period culminated in Brittany submitting the first regional development plan in France, which was approved by the government in 1956.

The peninsula of Brittany, formed by the four departments of Finistère, Morbihan, Côtes du Nord and Ille-et-Vilaine (which together comprise the official planning region of *Bretagne*) is an area with a distinctive regional identity. During the last decade, national and international attention has been increasingly drawn to this region by the publicity given to farmers' violent demonstrations. This strongly expressed regional discontent emphasises a feeling that insufficient has been done by the French Government to tackle what has long been evocatively referred to as the *mal Breton*.

High agricultural dependency combined with retarded farm structures are clearly an important part of this complex regional ailment further exacerbated by a stagnation in industrial growth. The most obvious symptom of such backwardness is the chronic regional depopulation experienced throughout this century.

Migration

There is nothing new in this exodus of population which has been likened to a haemorrhage of Brittany's human resources. Since 1851, the region has lost over 1.1 million people through migration, three-quarters of a million during this century alone.

The migration loss significantly under-represents the true scale of regional depopulation. Between 1954-1962, the net loss of 93,000 migrants, almost half of whom moved to the Paris region, resulted from 202,000 emigrants and 109,000 immigrants. Of the emigrants, three-quarters were aged between 15 and 34 years, productively the most important age group of the active population. In contrast, the immigrants were mainly older people, one third aged over 55 years, mostly Bretons returning to their home districts to retire after spending their working lives in other parts of France.

Position and regional character

Largely because of its peripheral position, eccentric to the main stream of France's economic life, the region was virtually by-passed by the industrial revolution of the nineteenth century.

Within the Breton peninsula details of the coastline and the broken relief of the interior produce a number of local problems. The numerous rias (drowned river valleys) which indent the coastline create difficulties of land communication, whilst the east-west orientation of the low plateaux or *landes* of the Armorican massif impedes north-south links.

Overall, it is the traditional distinction made between *Armor*—land of sea and *Argoad*—land of woods which offers a basic duality in the geography of the peninsula. The high population densities and growth of the littoral reflect more intense and varied activities based on a combination of resources not present in the interior.

Brittany's climate may generally be described as oceanic and is favourable to agriculture which, however, varies considerably from mixed farming and stock rearing inland to the intensive production of early vegetables and fruits in certain coastal areas (insert 2). Much of Breton farming remains dependent on small-scale polyculture, stemming from inherited traditions of self-sufficiency, and is ill-adapted to a modern agrarian economy. While 75 per cent of the land is in agricultural use compared with 60 per cent in France as a whole, over much of the region soils are poor, badly drained and acidic. Cultivation requires intensive care and considerable use of fertilizers to achieve good results. The most fertile areas are the coastal plateau of Leon and the Rennes basin which are covered with light "limon" soils.

Raw materials

Brittany is not well endowed in those raw materials which might have stimulated major industrial activities. (insert 1). Granite, quarried in the Côtes du Nord and Ille-et-Vilaine, accounts for some 50 per cent of national production but while of local importance as a building material, there are few other commercial outlets. The same is true of slate, for which Brittany contributes 5 per cent of national production.

Kaolin and uranium are resources of greater signifiance. Kaolin, exploited mainly in the Finistère and Morbihan, accounts for over 70 per cent of French production. Uranium has become of growing importance nationally as a future alternative source of energy to coal and oil. Following the creation of the Commissariat for Atomic Energy in 1945, intensive prospecting for uranium has led to the discovery of exploitable quantities in the central Massif,

TABLE 1

Brittany: Population growth & migration 1851-1968

	1851-1911	1911-1946	1946-1954	1954-1962	1962-1968
Brittany					
Per cent population increase	+13.0	−10.0	+ 0.8	+ 1.5	+3.0
Average net migration loss per annum	− 8,000	−12,000	−18,000	−11,000	−2,000
France					
Per cent population increase	+13.5	− 2.4	+ 5.6	+ 8.1	+7.5

Source: INSEE (Institut National de la Statistique et des Etudes Economiques) 1968.

the Vendée and in the Morbihan region. This latter region now accounts for nearly 10 per cent of French supplies.

Energy

An absence of indigenous energy resources was a contributing factor to the lack of industrial growth in Brittany. Not to have coal is no longer a serious disadvantage, especially since Brittany could obtain foreign coal, in particular from America, at prices much lower than French coal: not being permitted to take advantage of this because of protective limits on coal imports is a Breton grievance. Of only limited signifiance is the number of small hydro-electric power stations. The resulting high cost has been a major disincentive to industries dependent on large supplies of energy.

A number of recent changes has occurred in the field of energy production. Natural gas from Lacq now reaches Rennes and Lorient, and together with two new oil refineries at Donges and Rennes, these developments have reduced the cost of fuel in the Rennes region by some 15 per cent since 1965. In addition, two developments have been completed on the Monts d'Arée. In the Rance estuary, the power station of the tidal barrage started in 1961 came into production in 1967, with a capacity limited to 550 million kWh. At Brennilis, the nuclear power station remains experimental reactor of small capacity, built essentially as a prototype. These latter developments should both be regarded as prestige projects rather than as serious attempts to solve the region's energy deficiency problem (insert 1).

Capital

Shortage of investments within Brittany has further discouraged industrial development. Local sources of capital are rare, principally because of the absence of well-established commercial activities. At the same time, outside capital is not attracted to a region lacking the basic infrastructures necessary for new industry.

Transport

Brittany is poorly served by a communications network which affords little regional integration. (insert 4).

Rail:

Two coastal east-west axes, Rennes-Saint-Brieuc-Brest and Nantes-Lorient-Quimper dominate the network, with the most important north-south link joining Saint-Malo to Nantes via Rennes. Electrification has only been completed between Paris and Rennes. The old metric gauge network of central Brittany remains largely disused although, as a result of a campaign by the CELIB [1] in 1962, the conversion to normal gauge of the single track link between Guingamp and Carhaix was completed by 1966.

Road:

The pattern of road transport exhibits similar weaknesses to those of the rail network. Started under the Fifth Plan (1965-1970), major improvements to the two north and south coastal axes should complete their conversion to four-lane highways by the end of the Sixth Plan (1975). Despite pressure from the CELIB for a motorway through the problem region of central Brittany, the present plan only envisages completing improvements to the existing two-lane road link between Rennes-Loudéac-Châteaulin. The motorway from Paris, the *autoroute de l'Ouest*, is to be extended only as far as Le Mans during the present plan period.

Water:

Water transport is insignificant. The Ille-et-Rance canal, running from Saint-Malo to Rennes and the canal from Nantes to Brest carry very small tonnages (maximum size barges 100 tons). Few improvements are planned and these largely relate to developing the tourist potential of this canal network.

With a long coastline adjacent to some of the busiest ocean shipping lanes, it appears paradoxical that the region's best communications potential, namely its maritime links, remains virtually underdeveloped. Despite a natural harbour of sufficient depth to permit entry of vessels of up 250,000 tons, Brest in 1969 handled only 1,145,000 tons (three-quarters of which in the form of imports) and ranks fourteenth in the list of French ports [2]. Together with Lorient (1,210,000 tons in 1969) and Saint-Malo (803,000 tons in 1969) these Breton ports are particularly handicapped by situation to participate in the growing trade within the EEC. The promise of more effective land communications within the region has now led to major capital investment in the port of Brest in order to realise more fully its physical advantages. Present developments include major extensions to dry-docking facilities, and an oil terminal for super-tankers linked to the construction of an oil refinery of 4 million ton capacity.

Air:

Since 1961 "Air-Inter" has established daily flights between Paris and Rennes, Dinard, Saint-Brieuc, Brest, Lorient and Quimper with additional services during the tourist season. As yet, these developments have little significance for the transport of freight.

Level of living

This weakness in economic activity within Brittany has led inevitably to limiting investment in the regional infrastructure, not only in housing and services but also in such fields as education. The resultant lower material standard of living is as much a reason for the departure of young emigrants as is the lack of good employment prospects.

Various indices demonstrate the extent of this socio-economic disparity: in 1962, salaried income per household was some 30 per cent lower than the national average; in 1963, domestic electricity consumption was 37 per cent lower and in 1964 telephone usage 50 per cent lower per head of population than for France.

Housing is a national problem, but the situation in Brittany remains by far the worst for any region in France. In rural communes, which in 1962 accounted for 60 per cent of the region's housing, the problem is accentuated by a highly dispersed habitat with over one third of dwellings isolated. Added to the acute problems of over-crowding, the extreme age of much rural housing largely explains the low level of provision in essential domestic services: in 1966, mains water supply still only affected 48 per cent of rural housing in Brittany, compared with 68 per cent for France.

Regional development plan

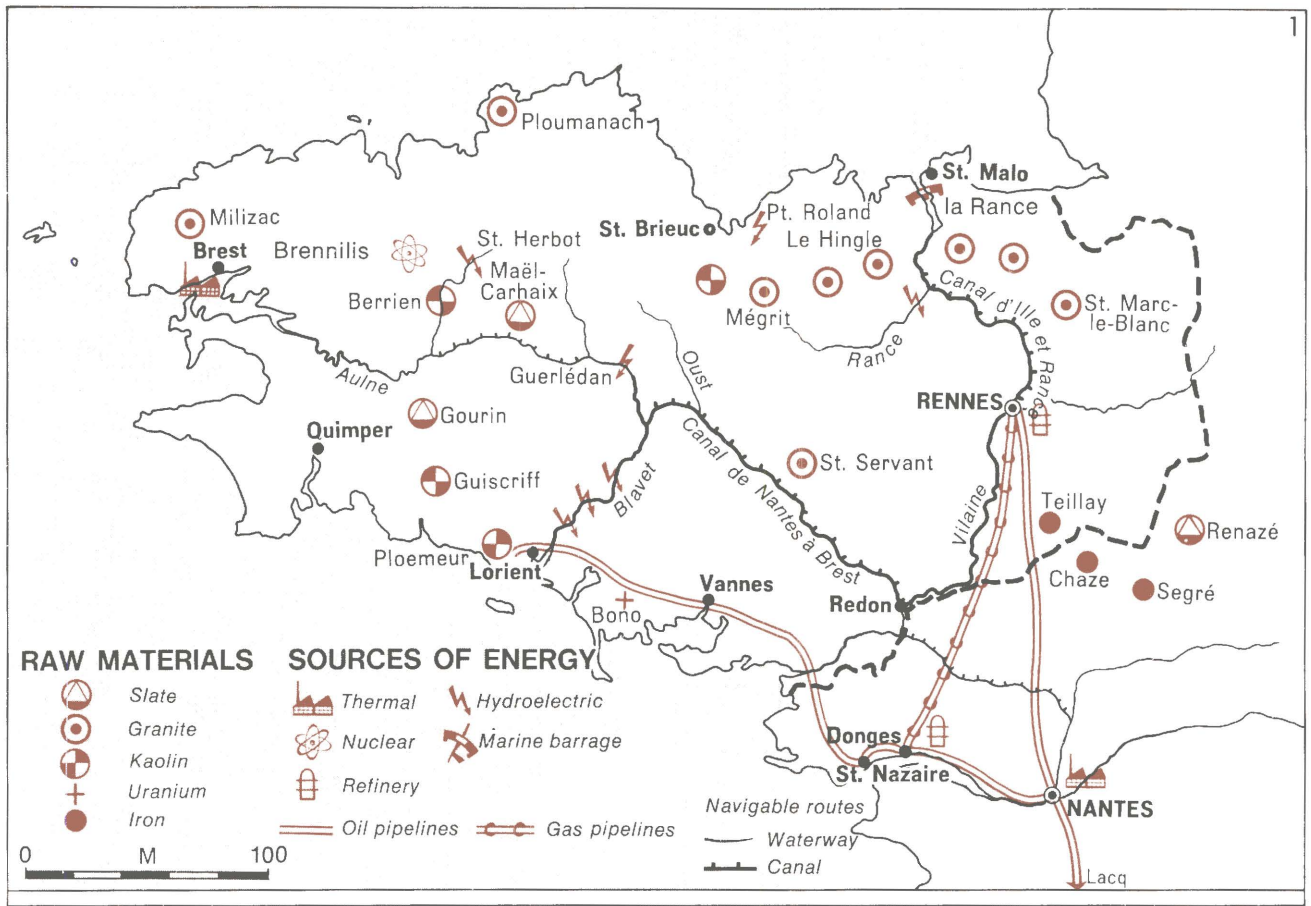
In the immediate post-war period, it was quickly realised that only a complete programme of regional renovation could effectively reverse this century-old regression. Towards this end, regional initiative and participation have provided the primary stimulus in tackling the task of reviving the economy.

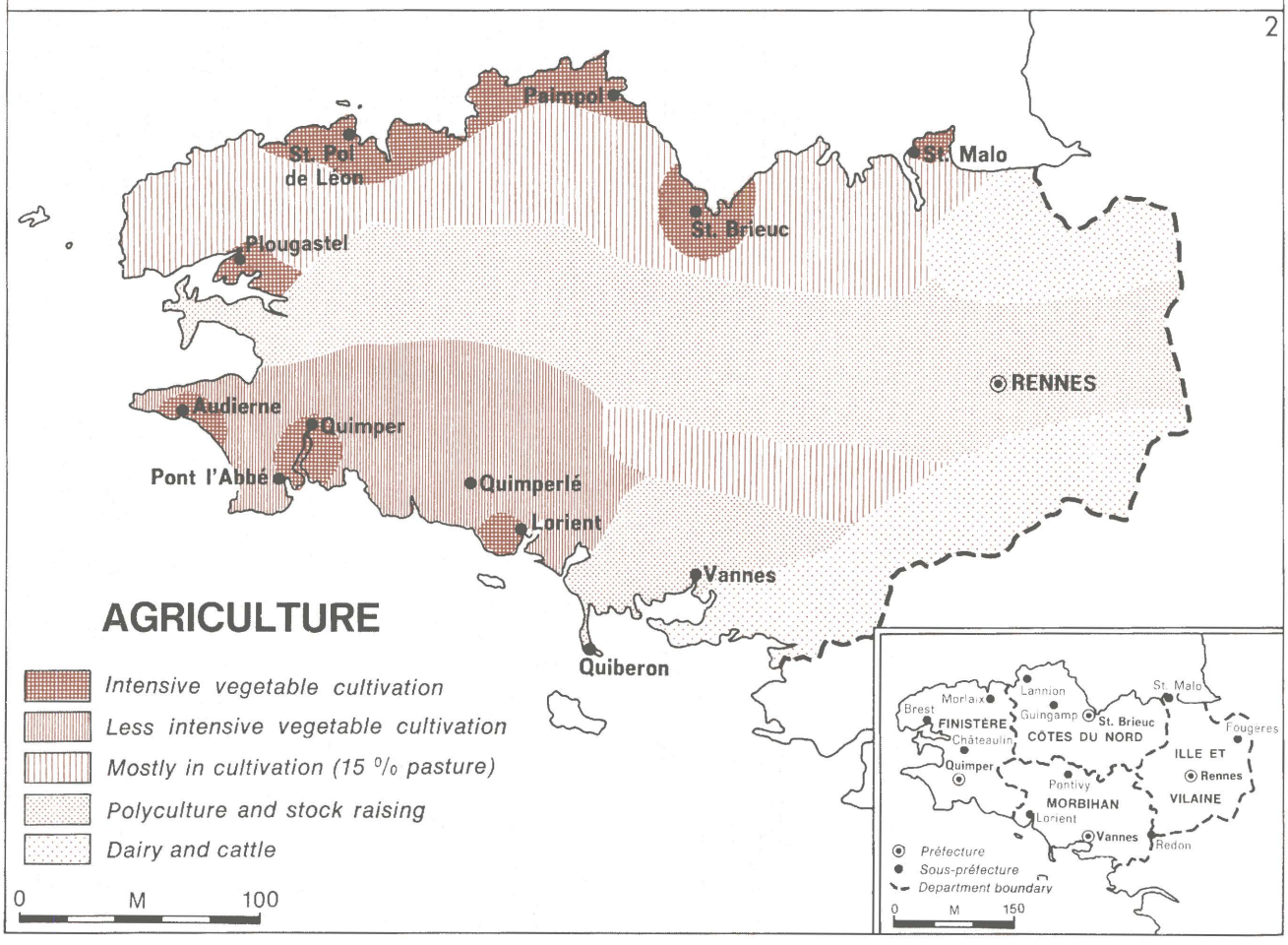
Between 1949-1951 the CELIB, comprising representatives from commerce and industry, universities, local and national government, became fully established as a regional action committee. Following governmental recognition in 1955 as a regional expansion committee, the CELIB was instrumental in Brittany being the first French region to produce a regional development plan in 1956.

Short term objectives like restoring a measure of demographic balance, and the long term objectives of bringing

[1] Comité d'Etude et de Liaison des Intérêts Bretons, a regional action committee set up in 1949 to promote the interests of Brittany.

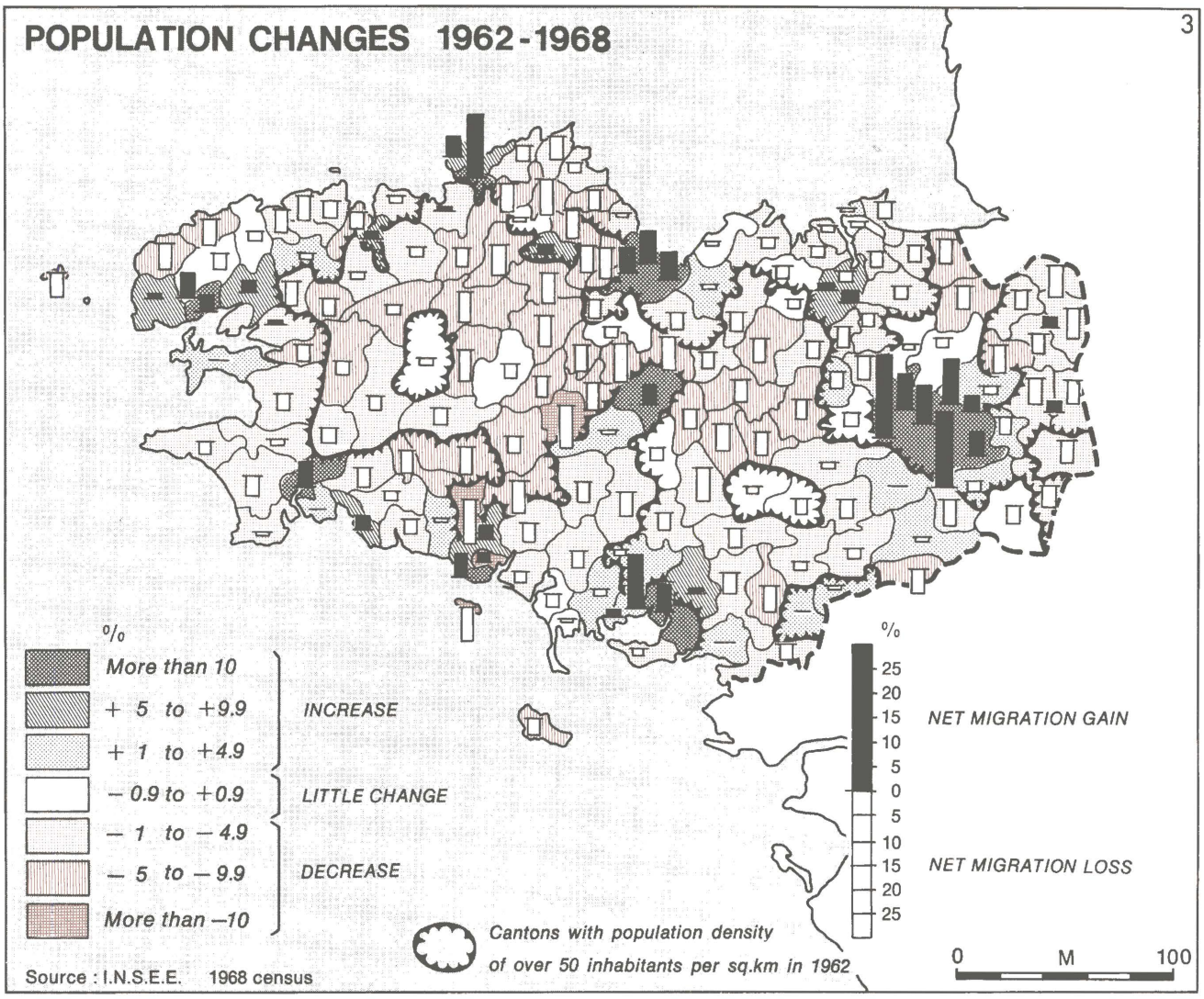
[2] France's leading ports, Marseille and Le Havre respectively with tonnages of 65 million and 50 million handled in 1969.


1
Ploumanach
Milizac
Brest
Brennilis
St. Herbot
Maël-Carhaix
Berrien
St. Brieuc
Pt. Roland
Le Hingle
St. Malo
la Rance
Mégrit
Canal d'Ille et Rance
St. Marc-le-Blanc
Rance
Aulne
Guerlédan
Oust
Quimper
Gourin
RENNES
Canal de Nantes à Brest
St. Servant
Guiscriff
Blavet
Vilaine
Teillay
Renazé
Ploemeur
Lorient
Vannes
Chaze
Segré
Redon
Bono
RAW MATERIALS
Slate
Granite
Kaolin
Uranium
Iron
SOURCES OF ENERGY
Thermal
Hydroelectric
Nuclear
Marine barrage
Refinery
Oil pipelines
Gas pipelines
Navigable routes
Waterway
Canal
Donges
St. Nazaire
NANTES
Lacq
0 M 100


2
Paimpol
St. Pol de Léon
St. Malo
St. Brieuc
Plougastel
RENNES
Audierne
Quimper
Pont l'Abbé
Quimperlé
Lorient
Vannes
Quiberon
AGRICULTURE
Intensive vegetable cultivation
Less intensive vegetable cultivation
Mostly in cultivation (15 % pasture)
Polyculture and stock raising
Dairy and cattle
0 M 100
Lannion
Morlaix
Brest
Guingamp
St. Brieuc
St. Malo
FINISTÈRE
Châteaulin
CÔTES DU NORD
Fougeres
ILLE ET
VILAINE
Rennes
Quimper
Pontivy
MORBIHAN
Lorient
Vannes
Redon
Préfecture
Sous-préfecture
Department boundary
0 M 150

POPULATION CHANGES 1962-1968

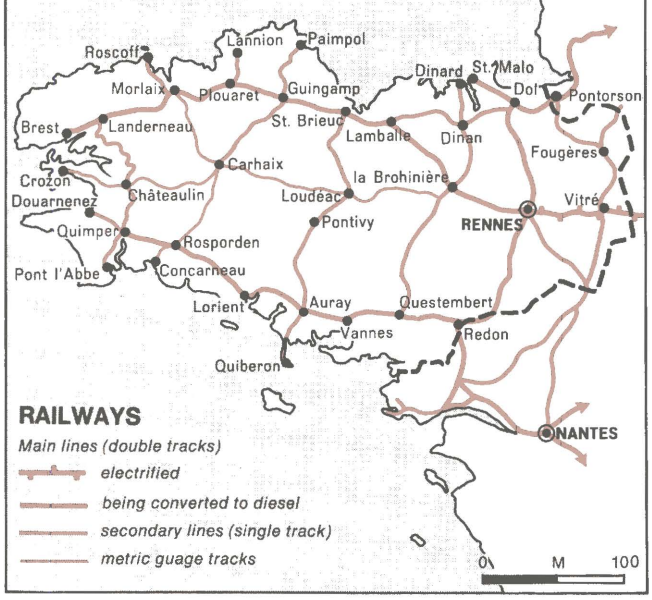
3



Source : I.N.S.E.E. 1968 census

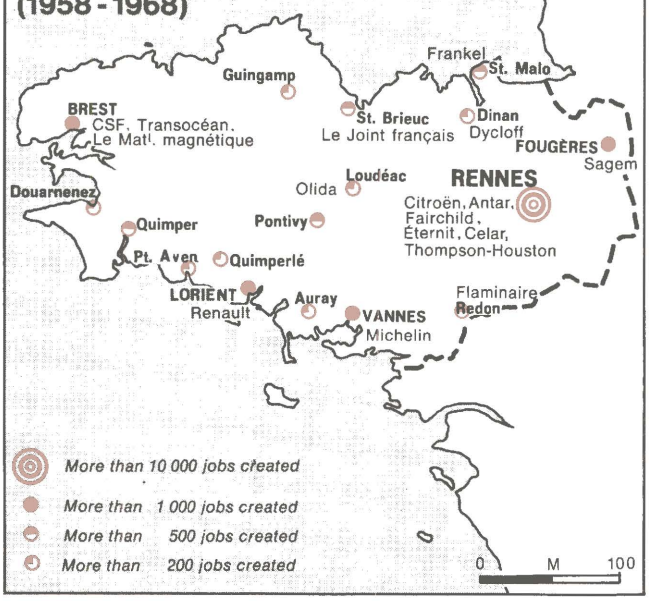
RAILWAY NETWORK

4



INDUSTRIAL DECENTRALISATION (1958-1968)

5



about an effective redistribution of population and economic activities throughout the region depend on a future development which must strike a new balance between agriculture and industry.

Agriculture

In 1962, 42 per cent of the region's total employed population was engaged in agriculture. By 1968, this proportion had been reduced to 33 per cent and for the first time in the region's evolution agriculture no longer represented the dominant sector [3]. By 1985, the present agricultural labour force of under 300,000 will be further reduced by half. The establishment of EEC agricultural policies has provoked a period of profound structural transformation in French agriculture, which in turn is forcing long over-due changes in the out-dated structure of Breton farming.

Despite this backwardness, Brittany today ranks as an important agricultural producing area. With just over 6 per cent of the agricultural area of France, the region accounts for between 9-10 per cent of national production [4]. However, although in terms of total production the region ranks high, the value of per capita production lies well below the national average (insert 2).

The Breton plan strongly advocates further specialisation towards livestock production. Even so, the spectacular growth in recent years of pork, dairy and poultry production has not been without its own problems. The development of specialised pig and poultry farms, agricultural practices which appeared well suited to the small farms of central Brittany, has not been accompanied by the necessary control measures required to avoid a constant tendency to over production. The growth of factory-farming units owned by such large firms as Unilever has brought other difficulties. Farmers now find themselves under contract for their produce, but vigorous competition between various commercial interests can bring price fluctuations often detrimental to the small producer. Finally, competition from other areas within the EEC, especially from the Netherlands, has deprived Brittany of its share in the most profitable market, West Germany. Recurrent crises have brought a significant contraction in poultry production since 1963.

Similarly, the recently much publicised problems of vegetable production, already susceptible to variable weather conditions, have been aggravated by market fluctuations in prices as well as difficulties of distribution. Some markets have been almost wholly lost (as with garden peas formerly important in Sud-Finistère) through competition from better located, larger scale producers in the northern Paris basin. Hence the growing importance of various regional cooperatives and societies which have become specifically concerned with the commercialisation of particular produce.

Against this background, the rapid growth during the last decade of new agricultural and food processing industries shows that the problems of geographical distance can in some considerable measure be overcome by such developments within the region. The most striking example is the dairy industry, transformed from a traditional system based on collection of farm butter and supply of milk to nearby towns into a modern industry dominated by a few large group monopolies (including SAPIEM, the second largest industrial dairy group in France).

Increased agricultural productivity and competitiveness must also be based on modern agrarian forms which facilitate technical progress. Over half the farms of Brittany are less than 10 hectares (25 acres) in size, with farms over 50 hectares (125 acres) practically non-existent. The small average size of holdings is further aggravated by excessive subdivision into widely scattered small plots, which in the Pays de Redon, for instance, has resulted in holdings of 6 hectares divided into 25 dispersed plots, many measuring only 1.50 to 2.50 metres across!

Rationalisation of such fragmented structures is inevitably a slow process; 75 per cent of the region's agricultural area in need of "remembrement" still remains untouched, which in itself suggests a 15-20 year programme. The main obstacle to more rapid progress is essentially technical, relating to the high cost of eliminating hedge banks (estimated to account for 10 per cent of the region's agricultural area), redirection of surface drainage and reorganisation of farm access roads.

To the special problem of farm consolidation must be added those of creating larger more viable units. Following the 1960 Act *Loi d'Orientation Agricole*, a regional agency was created representing another development in the enlargement and restructuring of farm units. The degree of intervention possible by this agency in buying up land for redistribution varies regionally. In Ille-et-Vilaine, where 66 per cent of farmers are tenants, very little land comes on to the market in face of a constantly high demand to rent small holdings. By contrast, in parts of central Brittany, abandoned farms are being passed into a "land bank" as part of a long-term re-zoning of agricultural potential, reserving particular areas for extensive re-afforestation. To date, however, the operations of the agency have affected barely 10 per cent of the region's agricultural area.

A second Act in 1962 created a social fund likely to prove crucial to more rapid progress in structural renovation. It provides additional pensions to elderly farmers wishing to retire, grants and loans for improvement of farm equipment and financial aid to young agriculturalists opting for vocational retraining towards alternative employment. As yet only modest results have been achieved by this new policy.

Given the small and fragmented nature of farm holdings, much of the mechanised equipment—particularly tractors—remains effectively under-used.

Again, over the last ten years, Brittany has seen remarkable growth in the activities of two organisations which exist to encourage farmers to work together to improve efficiency. Over 1,000 collective machinery organisations facilitate the widespread use of heavy farm equipment, and a further 100 centres for the study of agricultural techniques diffuse modern ideas to farming communities.

Fishing

In 1970 the Breton fishing industry employed a land work-force of about 30,000 in addition to 15,000 sea fishermen. Brittany is the most important fish producing region in France, providing some 45 per cent of the national supply of fresh fish, 70 per cent of shell-fish and 60 per cent of oysters. Today, however, the region's fishing industry faces several difficulties. In particular, the exhaustion of traditional coastal fishing grounds along the continental shelf means new capital investment and modernisation of the fleet for deep sea fishing. At the same time, the fluctuating market has been especially affected by the relative stagnation of French fish consumption. Since 1964, two newly created regional organisations, one concerned with financial aid and the other with the problem of surpluses, have sought to rationalise the industry, which more and more is to be concentrated in the large ports of Lorient, Concarneau and Douarnenez.

Industry

The observed amelioration in the region's demographic situation has been attributed to the effect of new industrial growth. However, the regional impact of this improved trend largely affects only one department, Ille-et-Vilaine, focusing almost wholly on Brittany's major growth centre, Rennes (an agglomeration of almost 250,000 population). Of over 35,000 new jobs created in industry

[3] 34 per cent in primary sector, 27 per cent in secondary sector, 38 per cent in tertiary sector. France with respectively 15 per cent, 40 per cent and 45 per cent.

[4] Wheat 7 per cent; beef 10 per cent; milk 12 per cent; pork 19 per cent; poultry 25 per cent; eggs 25 per cent; potatoes 27 per cent; cauliflowers/artichokes 50 per cent.

between 1954-1967, 39 per cent were located at Rennes (followed by Brest with 7 per cent). The concentration of new economic activities in a few established growth points appears inevitable in a region where both the social and economic infrastructure remains ill-adapted to promoting balanced regional development.

Between 1962-1968, the employed population of Ille-et-Vilaine increased by 5.4 per cent while that of each of the other three Breton departments decreased by 1 to 2 per cent. Brittany as a whole thus showed a minimal increase of only 0.2 per cent which remained in marked contrast to the growth of 5 per cent achieved nationally between 1962-1968.

With only 27.3 per cent of the region's working population in the secondary sector (France 39.6 per cent) Brittany remains under-industrialised (Table 2). Much more significant is the lack of a strongly diversified industrial structure with growth potential. Construction and public works, which has experienced an exceptional rate of growth since the war employs over 40 per cent of the total workforce in this sector. This represents almost twice the percentage employed nationally.

Mechanical and electrical engineering industries received a considerable boost with the establishment and continued expansion of the two Citroën car-works decentralised to Rennes in 1959 and 1961. Together these assembly plants now employ over 10,000 workers, and their location has considerably benefitted the impoverished rural interior to the south-west of Rennes, where most of the labour force which commutes in daily has been recruited. Heavy industry is virtually non-existent in Brittany. In 1968 Renault sited a car component plant at Lorient while the Michelin plant at Vannes has doubled its workforce to over 1,500 since first opened in 1963.

Renewed growth of traditional food processing industries has brought much needed employment to several small towns. Fish and vegetable canning is concentrated on the south coast while in the interior a number of large dairy cooperatives have been established. Thus the industrial renaissance of Loudéac—once the centre of an important rural linen industry—has been achieved by exploiting both the local agricultural resource base and its strategic geographical position. Several new processing industries, but particularly Olida (pork products) employing 500 workers and opened in 1965, have helped to stabilise population trends and make Loudéac (8,000 population) a model for future growth in central Brittany.

TABLE 2

Brittany: occupational structure, 1968

Branch of economic activity	Total employed 1968	Total change 1962-1968	Per cent change 1962-1968
I. Fishing	15,000	− 1,900	−11
Agriculture and Forestry	326,900	−95,300	−23
Extractive industries	5,500	− 200	− 4
II. Construction and public works	113,600	+27,800	+32
Manufacturing industries [a]	152,100	+22,700	+17
III. Transport	37,400	+ 1,100	+ 3
Commerce, banking insurance	138,600	+15,400	+13
Services	98,000	+13,500	+16
Public Administration, Armed Forces	105,000	+18,400	+21
Total	992,200	+ 1,500	+ 0.2

Major sectors: I-primary, II-secondary, III-tertiary.

[a] Largest increases in employment between 1962-1968 were among the following industries: food: 10 per cent; automobile: 73 per cent; electrical and electronic: 515 per cent; mechanical engineering: 55 per cent; construction materials: 27 per cent; chemical and rubber: 97 per cent; clothing: 17 per cent.

Source : INSEE (Institut National de la Statistique et des Etudes Economiques) 1968.

The over-riding feature of Breton industry is the small scale of firms. Of 36,000 industrial firms listed in 1966, less than 1 per cent employed more than 100 workers and only 11 establishments employed more than 1,000. Most of the traditional clothing and leather industries, providing welcome job opportunities for female labour, have experienced recurrent problems because of small size. Fougères remains an important centre for these latter industries, now undergoing reorganisation as in the replacement of the older textile industry by the manufacture of ready-to-wear garments.

Since 1960, government policy has striven to achieve a more vigorous renewal of industrial decentralisation (insert 5) into the Breton peninsula beyond Rennes. In view of transport and other economic costs, the emphasis has been on light industries, particularly science-based industries enjoying links with three newly decentralised advanced research institutes at the University of Rennes. Thus in the field of electronics centres were located at Lannion, Brest, Saint-Malo, Fougères and more recently CELAR, Fairchild and Thomson-Houston in Rennes. However, between 1960 and 1970 this produced only 4,000 new jobs (2.5 per cent of the national work-force in electronics). Although in the long term such advanced technology industries are theoretically capable of exercising a regional multiplier effect, the CELIB sees an urgent need to widen and diversify Brittany's industrial structure even further by creating large scale industrial port complexes. The new developments at Brest represent a move in this direction.

Tourism

Just over two million tourists spend altogether about 70 million days holiday in Brittany each year, accounting for 10 per cent of the French total. This tourist activity yields over 5 per cent of the region's revenue. In order to expand the important complementary role of tourism, much more investment is needed to improve facilities, particularly in appropriate hotel accommodation and camping sites.

Future prospects

Through their determined attempt to revive the region's economy, Breton initiatives have pioneered the development of French regional planning in the post-war period. In particular, the prolonged campaign by the CELIB is beginning, albeit slowly, to see the first fruits of progress. According to the newly published white paper (1971) of the CELIB, the current period of the Sixth Plan will remain one of transition, with objectives firmly fixed on continuing the renovation of the region's infrastructure in order to accelerate industrial growth. Most of the special regional budget made available is being devoted to the communications network, which, in view of Brittany's relative geographical isolation can be considered a crucial catalyst of future development.

Bibliography

La Documentation Française, *L'économie de la Bretagne.* Notes et Etudes Documentaires, Nos 3502-3503, juin 1968.

Les Grandes Enquêtes, *La Bretagne.* Editeur: Morvan Humanisme, Paris, 1966.

CELIB, *Bretagne: Une Ambition Nouvelle* (Livre Blanc), Presses Universitaires de Bretagne, Saint-Brieuc, 1971

Michel PHILIPPONNEAU, *Debout Bretagne,* Presses Universitaires de Bretagne, Saint-Brieuc, 1971

Ian THOMPSON, *The Saint-Malo Region, Brittany,* Geographical Field Group Studies, No 12, 1968.

European studies, 12, 1971.

The urban phenomenon in Europe (II)

This article by Prof. T. H. Elkins of Sussex University is the continuation of the first article on the same subject published in No. 10 of the Teachers' Series. It is a general presentation of city structure and city planning in some European countries. It describes the problems arising from the creation of new peripheral housing estates as well as new towns and the solutions proposed for the improvement of this new way of life.

City structure

The modern city is characteristically divided into specialised use zones. In the western world, the process producing such a zonation is primarily economic: big stores will outbid other claimants for sites on central shopping streets, offices will outbid housing for sites in the central business district, the wealthy will outbid poorer people for the most highly valued residential sites. Nevertheless, although the process is everywhere similar, the objectives of the bidders do reflect some marked differences of values from country to country.

The central area

The most universal of these specialised areas is found at the heart of the city. Commonly in central and western Europe the central area coincides in extent with the city as it was before the age of industry, the *Innenstadt*, and is often still defined by the boulevards that have replaced the former walls. Into this area will have been concentrated the central activities and institutions of the city, of its region or of even a nation, with consequent driving out of the original residents.

Commonly, the central area is itself divided into a number of distinct use zones. The most familiar is the central business district, marked all too frequently by the replacement of historic quarters by characterless office blocks, dwarfing the churches and other historic buildings that recall an earlier community life. A second distinctive use is retailing, perhaps combined with entertainment. In some cities there may also be a distinct cultural quarter, with university institutes and publishing houses, like the *Quartier Latin* in Paris. Finally great capital cities have a distinct government quarter, a Whitehall or *Wilhelmstrasse*.

As a result of this specialisation the central area becomes a place where people work, especially in the rapidly expanding tertiary sector of the economy, but do not live. Central London, for example, employs 1.3 million workers, but only 8 per cent of them are resident. The overwhelming majority must journey to their work from the outer parts of the city and even beyond it. The consequence for city planning of movements on this scale can be easily imagined. Yet the process of excluding the residential population is not everywhere as complete as in London or as in many German cities, where wartime destruction accentuated the movement. In particular the people of France and the Mediterranean countries cling to residences in their central cities. Consequently central Paris in 1965 still averaged 351 inhabitants to the square kilometer, as against 139 in Stockholm or 100 in London.

The middle zone

The central area is characteristically surrounded by a belt of high-density housing, mostly the product of the 19th and early 20th centuries. In the continental city one part of this belt will consist of middle or upper-class housing, which is often attracted by such features as parks, royal palaces or rivers, and avoids the proximity of industry and railways.

So in Paris we find the fashionable districts around the Louvre continued westwards into the 16th arrondis-

sement beyond the Etoile, in Berlin the embassy quarter south of the Tiergarten, continuing into Charlottenburg, in Brussels the quarter around the Royal Palace and (more exceptionally in England) Mayfair and Kensington in London.

In recent years these "good class" districts fringing the central area tend to be taken over for professional purposes (lawyers, doctors) or for offices; currently, for example, there is a great controversy over the invasion of the formerly exclusive Frankfurt "West End" district by giant offices blocks.

Over most of the middle zone working-class housing predominates; *Mietskasernen* (rent-barracks) of Berlin and other German cities on their precise rectangular grid of streets, or the irregular narrow streets of the outer parts of the city of Paris, stretching from the railway stations to the nineteenth-century city limits on what is now the *boulevard périphérique*. Typical of the zone is a large intermixture of industry: medium-sized plants on the radiating railways and waterways, but more especially hundreds of small industries and independent craftsmen in courtyards and all sorts of improvised and unsuitable premises. Parks and open spaces are rare.

The suburbs

We think of the suburbs as the abode of the middle classes, and this is broadly true in Britain, Germany, Scandinavia and the Netherlands, where the middle classes have long used their mobility and purchasing power to obtain a little more space and fresh air than is available in the central city. They have however been followed in this movement by at least the financially more stable members of the working class. What is characteristic of the suburb is segregation: the middle classes tend to pick the more pleasant neighbourhoods near rivers, parks or forests, leaving the working classes to occupy the gaps between. So we have the development of preferred middle-class suburbs: Steglitz in Berlin, the banks of the Alster and Blankense in Hamburg, the neighbourhoods of the parks of Saint-Cloud and Sceaux in greater Paris.

We must however beware of applying the Anglo-Saxon model to the French or Mediterranean city. Saint-Cloud and Sceaux are very much exceptions; the prestige residential area of greater Paris is not the suburbs but the 16th arrondissement of the "middle zone". It is the working classes who are forced out to the suburbs, which are not the orderly Anglo-Saxon affairs of roses and trim lawns but crowded and unplanned accumulations of often sub-standard individual houses, what the French call *pavillons*. Typically such suburbs are poorly provided with public utilities, schools, hospitals and administrative services generally. Much the same is true of Rome, where new working-class settlers are relegated to the *borgate*, unplanned peripheral settlements of rudimentary dwellings. The most recent immigrants of all may find themselves driven even lower down the scale to the shanty towns, the *bidonvilles*, squatting on the waste lands in the interstices of the developing agglomeration.

The rural fringe

Beyond the continuously built-up fringe of the agglomeration lie the commuter towns and villages. In Britain it is mostly the middle classes who move out to colonise the villages and farms abandoned by a declining rural population. In continental countries the long-distance commuters are characteristically recruited from the indigenous rural population, workers who have abandoned farming but not their rural residence.

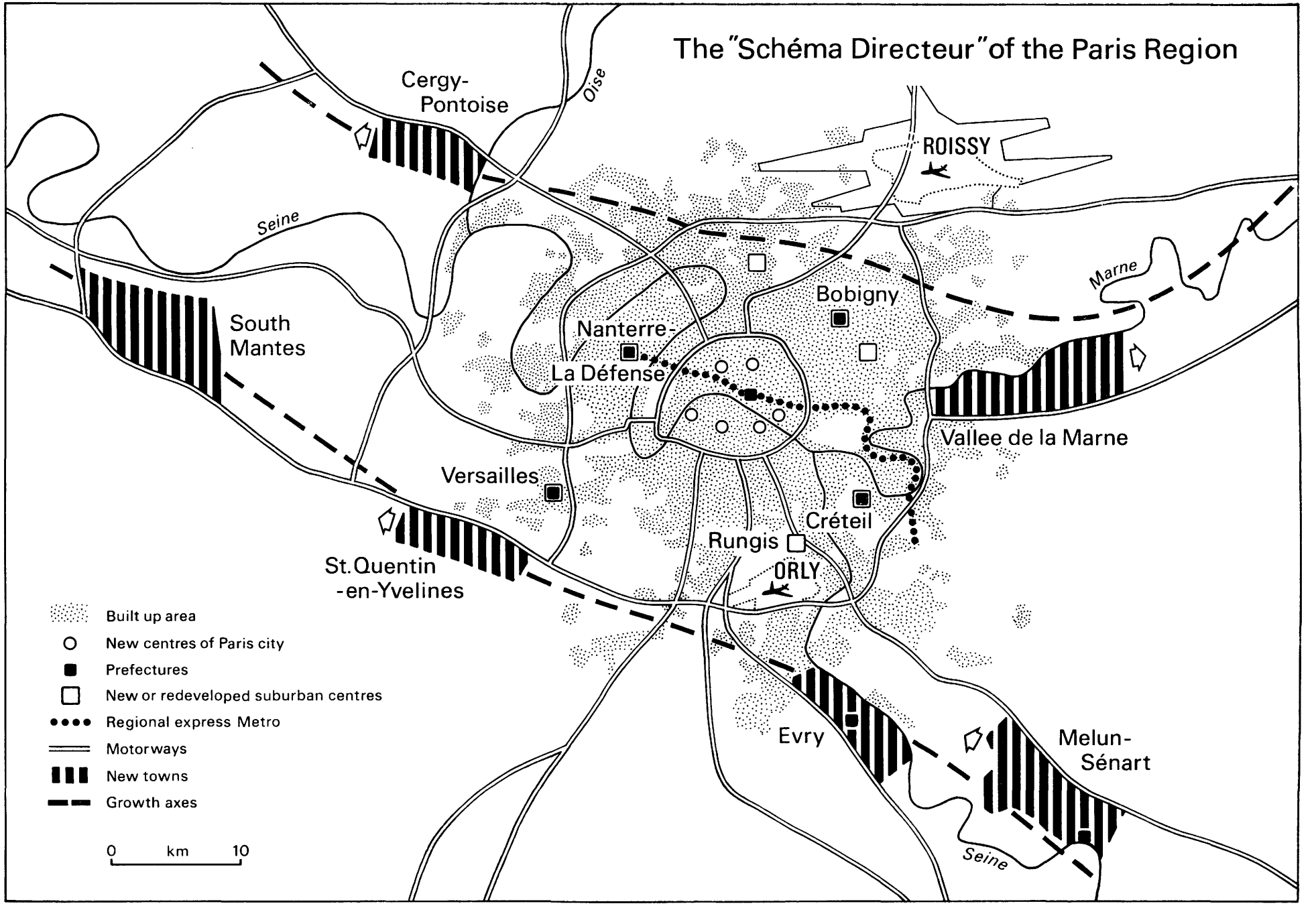
Restructuring the city

Urban renewal

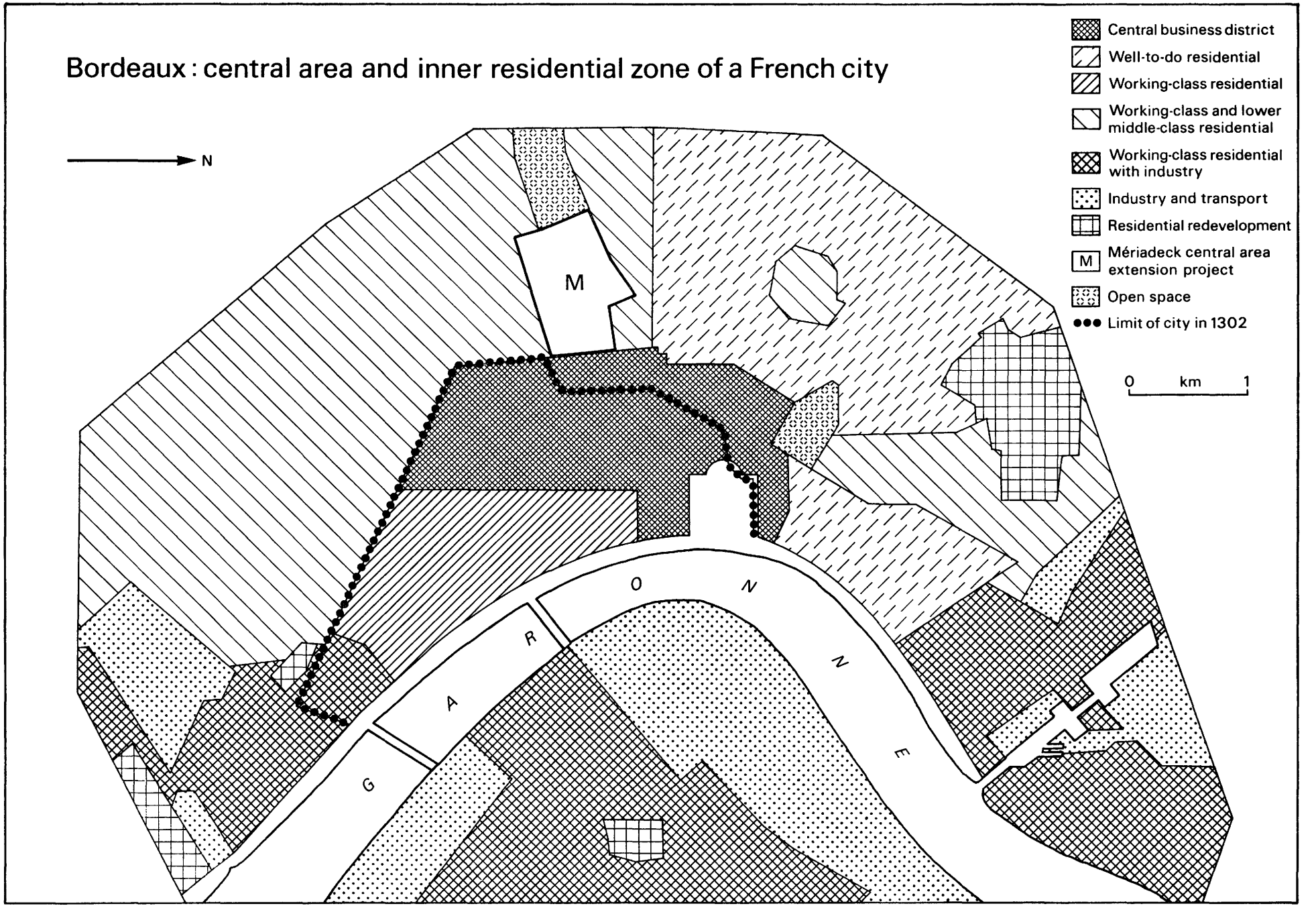
What is being done to make the great European city a fit place to live in for its inhabitants? Most obviously in need of attention is the middle zone, with its mass of poor-quality working-class housing, together with any similar sections in the historic core that have not been taken over for typical central-area activities. Administratively, technically and financially the easiest solution is usually to clear away the sub-standard accommodations and rebuild, as in the British slum-clearance schemes. The city of Paris, for example, has an interesting plan for surrounding its historic central area with about a dozen new commercial centres, injecting a new level of activity into the run-down quarters of the middle zone. Perhaps the most dramatic of these is the Fronts-de-Seine development, where a cluster of residential and office towers is transforming a run-down industrial quarter which has the good fortune to be just across the river from the fashionable 16th arrondissement.

The disadvantage of the method of clearance and rebuilding is that the costs of the operation are so high that if left to the private developer none but the middle classes can afford the accommodation provided. It has been said of Rome that the clearance of the crowded central districts inevitably involves the introduction of middle-class residents, and the departure of the former working-class residents to the city fringes. In Paris too, it has been found that in order to pay for the high costs of clearance, of the provision of new motor roads, metro stations, traffic-free pedestrian shopping centres, open spaces and all the other desirable facilities of the new sectors of redevelopment, it is necessary to concentrate mainly on office blocks and high-cost flats. As the middle zone is redeveloped in this way, it becomes more and more middle-class socially, with the working classes displaced either into the remaining areas of run-down property, or out to the agglomeration fringe.

Where, as with slum-clearance schemes in England, the areas are used for working-class housing, social problems are not at an end. Long-continued, working-class occupation of the middle zone has built up strong community structures, in part in reaction against the very inadequacy of the environment. Social life centres


The "Schéma Directeur" of the Paris Region
Cergy-
Pontoise
Oise
ROISSY
Seine
Marne
Bobigny
South
Mantes
Nanterre-
La Défense
Vallee de la Marne
Versailles
Créteil
Rungis
ORLY
St.Quentin
-en-Yvelines
Evry
Melun-
Sénart
Seine
Built up area
New centres of Paris city
Prefectures
New or redeveloped suburban centres
Regional express Metro
Motorways
New towns
Growth axes
0 km 10

Bordeaux : central area and inner residential zone of a French city



particularly on the streets, the numerous small shops and the cafés. When such areas are cleared and the populations dispersed to peripheral housing projects, these social groups are destroyed. Another problem is that not everybody feels able to meet the higher rents of the new accommodation, even though the facilities offered may be greatly superior.

One alternative to complete clearance is the renovation of existing housing rather than destruction. There are interesting experiments with the Berlin *Mietskasernen*, which are "cored" by removing the buildings from around the central courts to let in light and air, while the surviving apartments are renovated. However the process is an expensive one; a host of owners and tenants must be dealt with, and in the end between a third and a half of the inhabitants must be resettled anyway, because there is not room for everybody at the new higher standard of accommodation. Renovation rather than destruction is particularly to be recommended where attractive historical property is concerned, as in the Marais district of central Paris where 17th-century *hôtels* had degenerated into warrens of cheap apartments and workshops. Unfortunately such renovation is usually done as a private venture, and only the middle classes can afford the inevitably high cost of the delicate building operations involved. The working classes must join the trek to the suburbs, the craftsmen perhaps put up their shutters for ever.

In contrast to the middle zone, the suburbs of Anglo-Saxon type scarcely require redevelopment, since their generally affluent populations have naturally attracted an adequate range of social equipment and services. The unplanned and mainly working-class suburbs of France and the Mediterranean lands, by contrast, require restructuring by the insertion of new commercial and administrative centres. Once again Paris provides instructive examples, notably the dramatic multi-level *La Défense* project, situated in the suburban Hauts-de-Seine department, but on the axis of expansion of the central business district westwards from the Etoile. As is common in these Paris suburban schemes, the opportunity has been taken to link the new centre with the prefecture of the new Hauts-de-Seine department in adjoining Nanterre, and with one of the most notorious of the new Paris universities, thus providing social and occupational diversity.

Peripheral housing estates

Even with the most careful urban renewal schemes, a proportion of the population is always displaced, to join with the newly married and the immigrants of the rapidly growing cities in a search for accommodation.

Many of these people must receive some degree of assistance from the state or the municipality if they are to be able to obtain reasonable accommodation at a price they can afford. Accordingly, most European cities have since the war developed great housing projects in and beyond the suburban zone. Usually such schemes involve some measure of the state or municipal subsidy. West Berlin, for example, while restoring its older housing has also had to create virtual new towns for 50,000 people each. Although distinguished by a lively architecture, they have been criticised as heartless, lacking the warmth and community feeling of the older districts, but such comments are relatively mild compared with the controversy that has ranged around the French version on the same theme. France, having had a stationary population for 50 years, found itself after 1945 with one that was rising steadily, as well as undergoing a process of rapid urbanization. Only a building programme making use of large-scale mechanised methods could, it seemed, make any impact on the problem. The result was the *grand ensemble*, the giant housing projects of up to 50,000 inhabitants built on the fringe of the city. The earliest plans were admittedly highly uninspiring, with rigidly rectangular alignments of identical apartment blocks. Sarcelles, one of the earliest grands ensembles, situated on the northern fringe of Paris, rapidly acquired a national reputation for its real or alleged deficiencies, and was denounced as cold, impersonal, unfriendly and inhuman in scale. There was no nearby employment, the men were faced with a long daily journey to work, the women left behind in their bright new flats rapidly began to suffer from 'suburban neurosis'. There was nothing to occupy the adolescents, who formed gangs and got into trouble with the police. Communal facilities of all kinds arrived long after the population to be served: schools, municipal offices, shops, clinics, sports grounds long remained inadequate. A giant shopping centre and an industrial estate are only now being created. Certainly not all the mistakes of Sarcelles have been repeated in later schemes, but the social difficulties of large peripheral housing schemes have been made clear enough.

The new towns

The British contribution to this problem of housing the expanding city population has been the "new town", introduced in Sir Patrick Abercrombie's Greater London Plan of 1944. Their parentage dates back to Ebenezer Howard and the pioneer garden cities of Letchworth and Welwyn. Abercrombie's idea was to limit population expansion by restricting industrial development, and then to contain the existing city in a green belt where no building would be permitted, while moving people to be rehoused out to planned new towns, of up to 60,000 inhabitants. These would be self-contained settlements with their own industry and commercial facilities. The precise British model of rather small new towns beyond a green belt has not been much followed on the continent. The new towns proposed adjacent to Rouen, Lyon and Lille are broadly similar but rather larger—about 150,000 population —and closer to the parent city. Germany scarcely needs to make new towns, since history has left the country so well provided with old ones waiting for development. Copenhagen and Stockholm have preferred to build chains of satellites on "fingers" of new development reaching out from the parent city, and linked to the parent city by rapid transport systems.

Even in Britain, the original new town idea fell out of favour, for a variety of reasons. However successful

in themselves, they were obviously inadequate to deal with the rapid population expansion spilling over from the central city, and they were felt to be too small to obtain any genuine degree of independent life. From 1964 the idea developed of new cities rather than new towns, Milton Keynes and a Solent city, placed on the very edge of the southeast region, in order to achieve genuine independence and act as counter-magnets to the social and economic pull of London. The Paris *Schéma directeur* of 1965 also proposed very large new towns; the four so far planned in any detail range from 300,000 - 500,000 each. Only units of this size, their planners felt, could offer a sufficient range of economic and social provision to their inhabitants. Nevertheless complete independence of the facilities of central Paris was held to be neither likely nor desirable, so that the new units are close in to the existing agglomeration. Curiously this model has been taken up in the latest of the London proposals, the 1970 "Strategy for the South East", which proposes that one of the largest blocks of future expansion should go into south Essex, adjacent to the existing London agglomeration. The reason for this reversal of previous ideas appears to be largely social, springing from the growing appreciation that the new towns with their highly skilled and enterprising populations were not alleviating the lot of a great mass of lower-paid urban workers, who were left behind in their decaying city, but might, however, manage the shorter move into Essex.

Transport and the great cities

The biggest influence on thinking about the form of cities and the regions that surround them is however the needs of transport, particularly the motor car. The scale of mobility of present-day people demands a new type of city. With the old city centres, perhaps, not a great deal can be done. Fortunately, the great bulk of commuter movement takes place by public transport, particularly the suburban railway network. Of the 825,000 persons travelling to work in Paris daily, mercifully only 92,000 do so by car. However, when added to the 910,000 vehicles registered in the city of Paris itself and all the business traffic, a formidable problem of congestion results. Recently an air survey was made of Paris traffic. Only 60,000 vehicles were on the move, impeded by 340,000 vehicles parked on the roads. A further 440,000 were parked off the roads (many of these were no doubt impeding the pedestrians on the pavements). The sheer lack of amenity in all this is familiar to every city dweller. The cure, in terms of urban motorways, may be worse than the disease. If the urban motorways follow existing open spaces, then all too scarce amenities are lost, as with the motorway that follows the north-bank quais of the Seine, polluting the river scene with its noise. If on the other hand it is taken through built-up areas, then thousands must lose their homes to make way for it, communities are sundered, and the unfortunate remaining residents must be battered by the noise of traffic, perhaps thundering round an elevated interchange within yards of their windows. The controversy over the London motorway "box" will be familiar to many.

At the expanding fringe of the agglomeration, the story is quite different. Here new urban development can be planned with rapid transport in mind, as the Scandinavians showed with their finger plans. In the typical city, transport lines follow the radials. As the radials converge on the historic centre, so congestion increases. Recent thought on metropolitan forms is tending to look for plans which do not involve this strongly convergent movement. Forms with linear or grid highway systems and strongly separated "cells" of urban development have been urged by urban theorists.

Some of the great European metropolises have acquired this looser, more cellular pattern through their historical process of development. The *Randstad*, the horseshoe of towns that encloses the green heart of the western Netherlands functions in many ways as a single city of 5 million inhabitants, but with its constituent towns such as Amsterdam, Rotterdam and The Hague playing distinct specialised roles. Laced together by electric railways and motorways, it is not unlike the ring-shaped city that some of our planning theorists would advocate. The same is true of the Ruhr conurbation, where the multiple urban nuclei characteristic of coalfields are separated by green, or at least open, corridors, through which its planners are threading modern motorways. The result is in some ways not unlike Professor Buchanan's plan for a new Solent city, based on a strongly rectangular grid of motor ways. In Paris, a strongly centralised city, the planners have a more difficult task. They propose the creation of two great axes, tangential to the present agglomeration, one running north and the other south of the Seine. From the tangent axes the new towns and other urban developments will, as it were, be suspended, eventually transforming the structure of the Paris metropolis from a strongly radial one to a kind of giant ladder headed downstream in the general direction of Rouen and Le Havre. Even the new Strategy Plan for southeast England has its tangential axis, running from Foulness and the proposed South Essex developments through the new town areas north of London to link with the M1 motorway towards Milton Keynes and Birmingham. So London too could in the end change its shape. What must however be said in conclusion is that these great metropolitan plans are enormously expensive to implement. Every government has to choose between investing in motorways, new towns and other forms of development and investing in other desirable schemes, like hospitals or regions suffering from high unemployment or Concorde airliners. The metropolitan region plans for expansion of our great cities may be long in the implementation. Meanwhile the cities have a habit of continuing to grow.

12 U

Orders to: European Studies, 23, Chesham Street, London, S.W.1