

UNIVERSAL
LIBRARY

OU_216960

UNIVERSAL
LIBRARY

France

Its Geography and Growth

The photograph on the title-page shows vineyards in Cognac, Charente



Jean Dollfus

France

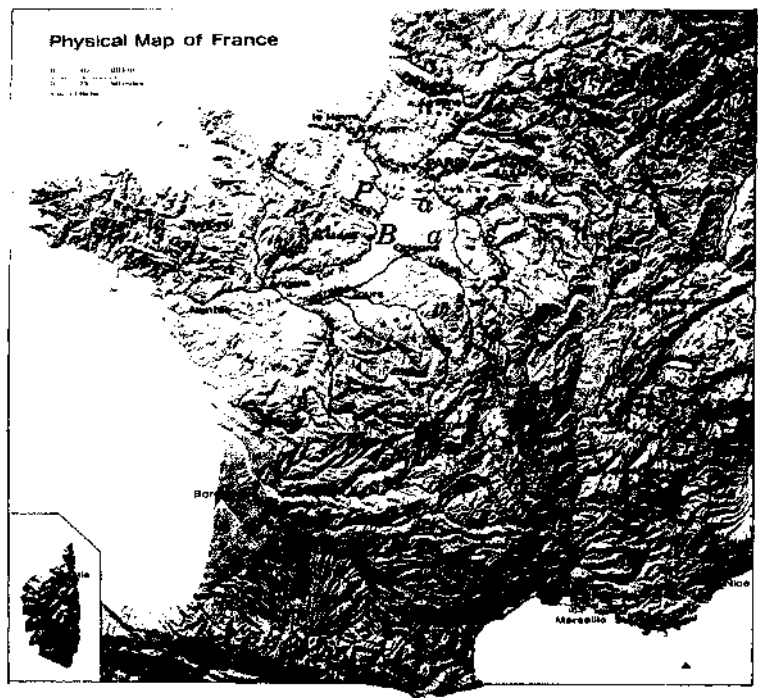
Its Geography and Growth

Translated by John Paterson

John Murray-London

Physical Map of France

0 50 100 Miles
0 50 100 Kilometers
Scale 1:500,000



Physical Features

North-west Europe owes much of its present form to two geological events, and we find the effects of both, side by side, within the borders of present-day France. Both of them were periods of mountain building: the first occurred at the end of the Primary era and produced the block mountains now described as Hercynian; the other, which took place close to what was one day to become the Mediterranean Sea, occurred in the middle of the Tertiary period and was responsible for a whole succession of developments—first, the uplift of the Pyrenees and the Alps, then the folding of the Jura Mountains under pressure, then the faulting and consequent dislocation and uplift of parts of the Hercynian "paving stones", and finally an outburst of volcanic activity in the centre and east of the Massif Central.

Between, and subsequent to, these events the present landscape has been moulded by erosion, and by deposition in the seas and lakes that formed between the mountain areas. Today, then, it consists of four old Hercynian massifs, variously composed of granite, sandstone, or shale, upstanding blocks worn to smooth outlines by successive cycles of erosion. Between these blocks lie basins with undulating floors of sedimentary formation, linked to each other by a series of lowland corridors. Beyond all these, on the south-east and south-west, rise the high walls of mountain ranges—Jura, Alps and Pyrenees—that form the frontiers of France.

Of the Hercynian massifs the first, the Plateau of the *Ardennes*, occupies little more than 500 square miles of France. It is, in fact, only the western tip of a block that is part of the Middle Rhine Uplands of Germany, and nowhere does it exceed 1,500 feet in height. The *Vosges*, by contrast, form a clearly defined feature, rising in the south to rounded granite summits over 4,000 feet in elevation, and falling away northwards beneath a cover of sandstones. They enclose the Paris Basin on its eastern side, separating it from the Plain of Alsace where the Rhine flows.

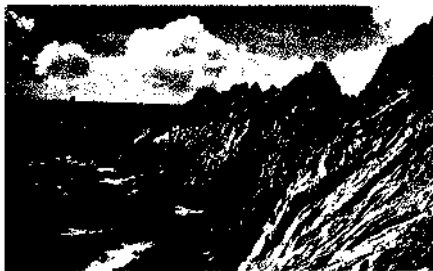
Much greater in extent is the *Armorican Massif*, which in turn protects the Paris Basin in the west. It covers 25,000 square miles, thrusting out into the Atlantic and the English Channel in two rocky promontories, Brittany and the Cotentin Peninsula. But its hills seldom exceed 1,200 feet in height; they trend east-west in a series of ridges, converging into hilly clusters at their ends.

Finally there is the *Massif Central*, which covers 30,000 square miles, and whose summits rise to 5,000 feet or more. Formed round a granitic mass with a limestone fringe and two wide areas of volcanic outpourings, this great block effectively separates northern from southern France.

Between these four pillars in the structure of France lie the major lowland features. The largest of these, the *Paris Basin*, occupies no less than one-third of France's territory—70,000 square miles. It lies open on the north-west to the English Channel, and on the north-east it merges with the western extremity of the great North European Plain. It is formed on a series of concentric beds of Secondary and Tertiary age, and comprises parts of the drainage basin of the Loire, Meuse and Moselle, as well as of the Seine and the smaller rivers, such as the Somme, which drain to the Channel coast.

West of the Paris Basin lies the *Poitou date*, a kind of col in the basement rocks between Armorica and the Massif Central, a col which has been covered by Jurassic limestone, and which links the Paris Basin with the *Basin of Aquitaine*. The two basins are similar in structure, but that of Aquitaine is rather the smaller of the two, and is much less regular in surface. It is bordered on the east by the Massif Central and on the south by the Pyrenees, and it drains to the Atlantic by way of the Garonne and smaller rivers such as the Charente and Adour.

The *Pyrenees*, whose uplift occurred before that of the Alps, form a barrier which rises above 10,000 feet and more or less hermetically seals off the Franco-Spanish border. They have a core of ancient



Top left: The Hercynian chain of the Vosges, with its rounded, forest-covered crests, screens Alsace from Lorraine and acts as a rain-trap sheltering the great valley of the Rhineland.

Above: The granite extremities of the Armorican Massif run down in reefs to the sea; shown here, Pointe du Raz (Finistere).

Left: The Massif Central, most battered of the Hercynian massifs. Its primitive schist and granite was distorted in the Tertiary period by Alpine pressure, and riddled with volcanoes of which numerous traces remain.

Right: The crests of the Pyrenees, seen here from the Pic du Midi, rise as a snowy (though largely glacier-free) barrier of regular height (10-11,000 feet) of the frontier with Spain, and can be crossed only by high-altitude passes





Mont Blanc (15,781 feet), chief of the Alpine peaks and the highest in Europe; here, looking towards the Italian frontier, it dominates the valley of the Arve in Savoy, and the tourist centre of Chamonix.

crystalline rocks and a short steep face on the French side. From their foothills there stretches eastwards to the Alps the southern fringe of France—the coastal plain, between the Massif Central and the sea, which has resulted from fluctuations in the level of the Mediterranean and from deposition by the Rhone. Here and there, especially in Provence, the plains are broken by chain's of low hills, such as the Massif-des Maurcs and the Massif de l'Estrel (which reappears from beneath the Mediterranean in the island of Corsica).

The *French Alps* represent only a small part of the whole chain, but even so they occupy 15,000 square miles of French territory, and include the highest peak in Europe, Mont Blanc (15,782 feet). This French section of the Alps represents the broad outer slope of the great chain at its western extremity. When the Alpine mountain-storm took place in Miocene times, this western end of the chain did not conform to the general east-west trend of the rest of the Alps



Steep white cliffs, similar to those of Kent, bring the cretaceous plateaux of the Paris Basin to an abrupt end on the Channel coast; shown here, Etretat in Upper Normandy.

and the Pyrenees, but was given its north-south orientation by being pressed against the relatively stable block of the Massif Central, which lay to the west of it.

Like the outworks of some great line of fortifications, the arc of the *Jura* Mountains rises to 5,000 feet along the Swiss border. It diverges westwards from the main curve of the Alpine system, and the mountains cover an area of some 5,000 square miles—serried ranks of hills in the south and high plateaux in the north, all intensively folded under the pressure of the Alpine uplift. West of the mountains, and curving with them, is the great downfold which is their counterpart and which today is drained by the Rhone and Saone. In the west, it reaches up to the Plateau of Langres, where it meets the eastern rim of the Paris Basin, and in the north to the Lorraine Gate. Eastwards, it extends as far as the Belfort Gap—through which the Rhine once flowed—and there links up with the Plain of Alsace and the present valley of the Rhine.



Above: The coastline of Provence is broken and varied; shown here, the sandstone massif of l'Estérel, with the waterfront of Cannes and Juan-les-Pins in the distance, backed by Alpine peaks.



Right: The flat coastline of Languedoc, curving round the Gulf of Lions from the Rhone to the Pyrenees; narrow sand-spits divide the sea-beaches from chain of shallow lagoons and salt-marshes.



Climate

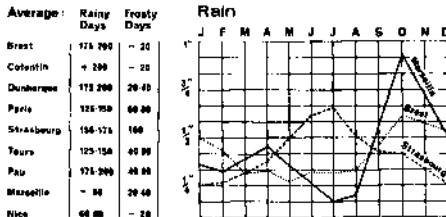
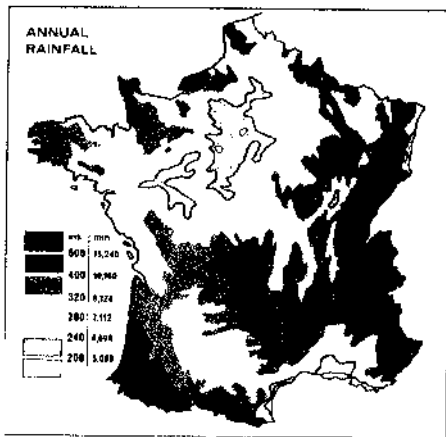
Lying as it docs in the heart of the temperate zone, astride the 45th parallel of latitude and exposed to the influence of maritime air streams, France possesses a complex climate—or rather a series of climates—which in turn is responsible for the variety of vegetation and river regimes that characterise the country.

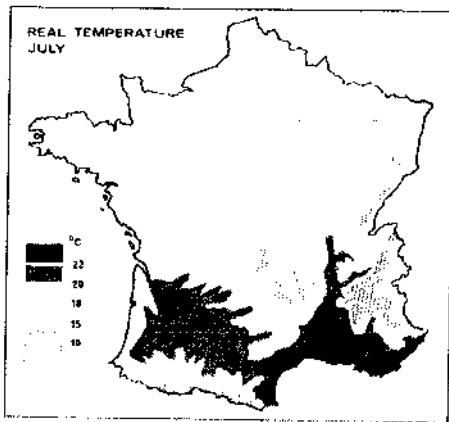
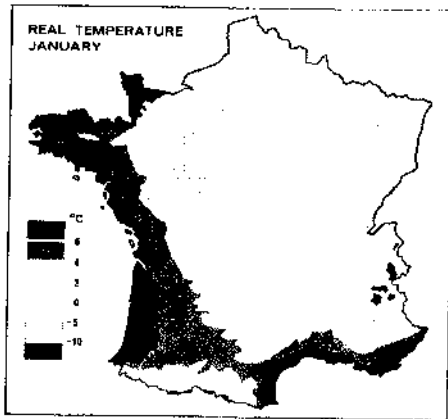
There are, to begin with, three main spheres of climatic influence—Mediterranean, continental and Atlantic. The area of Mediterranean influence extends only a short distance northwards from the coast, and is blocked inland by the lines of the Alps, Cevennes and eastern Pyrenees, but it penetrates up the Rhone valley. It is characterised by absence of cloud, high evaporation rates, hot, dry summer weather and usually bright winters; by infrequent but heavy rains occurring between the seasons, especially in October; and by strong winds of which the cold Mistral, blowing from the north, is the best known.

The second sphere is that of continental influence. It covers eastern France from the Rhine into Champagne and Burgundy, and south as far as Lyons. Its features are a wide seasonal range of temperature, with cold winters beneath the continental high pressure system; 80 to 100 days of frost and long periods of snow cover; warm summers which tend to generate thunder showers; late springs and beautiful, calm autumns.

The third is the sphere of Atlantic influence, which extends over the western peninsulas. Here we find only a small range of temperature—often less than 10°C—between the mild winter and the cool summer, a slow onset of the seasons, and frequent line rain or drizzle, falling on perhaps half the days of the year, with a maximum in autumn, all under the influence of a perpetual westerly wind.

But between these three main and distinct climatic zones is found a great variety of transitional forms, with many regional, and even local variants. There is, for example, Aquitaine, with its heavy rainfall along the coast, its mild winter, its unusually early spring with heavy dews and then, with the onset of persistent southerly





winds, a summer that may well be as hot and dry as that of Provence. Or there is the Massif Central, with its long winters and heavy snowfalls, its autumn storms and swollen rivers, its striking local contrasts between the valleys orientated east to west, and so open to maritime influences from the Atlantic, and those running north to south, which are subject to continental influences.

Nowhere are the local variations of climate more pronounced than in the Alps: continental in character down in the valleys; super-humid in the Prcalpes, sharply contrasting from one slope to another, from *ubac* to *adret*, shady side to sunny side, according to the orientation of

the valleys. The bright skies of Charente; the subtly varied climate of the Loire country, where Touraine and Anjou are renowned for their mildness and their clear summer skies; the Paris Basin, where the coastal hills of Normandy receive the bulk of the precipitation from the sea, and shelter the centre of the basin, giving Paris the benefit of moderate temperatures and la Beauce a rainfall as low as that of Perpignan, or of Colmar in the rain shadow of the Vosges; the Nord, with its low rainfall, its cloudy skies and its ground mists: all these and many others represent local modifications of the three main influences which we have considered.

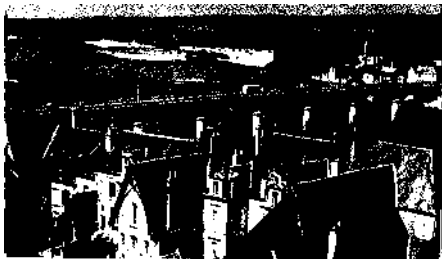
Rivers

The drainage system of France is based on five major rivers, rivers whose characters are, however, quite different. Across the northern plains, with their regular rainfall and gentle slopes, flows the *Seine*, the most docile and regular of French rivers, and the best-adapted to navigation, with its slight gradient and its flow maintained by groundwater reserves beneath the chalk and limestone tablelands of its basin. The flow of the *Seine* which is characteristic of the rivers of the north and the Channel coast—shows maximum volume in winter and minimum in summer, in the ratio of 3:1.

The *Loire* is the longest of French rivers and its basin occupies the central part of the country. About one-fifth of this basin is mountainous, however, and as a result the *Loire* is the least predictable and the least useful of the five rivers, apart, that is, from its tidal stretch. Carrying a heavy load of debris, threading its way between islands and shifting sandbanks, unpredictable in its flow, with sudden floods generated in its own upper course and that of its tributary the *AUicr*, the *Loire* represents a formidable obstacle and is a menace to its basinlands, a menace which has only been neutralised by the construction of levees along its banks, gradually increased in height until they have attained 20 feet in parts of Touraine and Anjou.

The *Garonne* is the shortest of these five rivers. Unnavigable above Langon, it is essentially a mountain torrent of very uncertain temperament, despite the length of its lowland course. Draining the northern slopes of the Pyrenees, with their high rainfall and rapid run-off, it is reinforced by tributaries similar in character flowing off the Massif Central. It has its seasonal maximum in spring, and is capable of flooding catastrophically, with sudden rises in level of over 30 feet.

The *Rhone* is the largest and most complex of French rivers. Its volume is three times that of the *Seine* and its current is very rapid. A large part of the flow is supplied by its Alpine tributaries, bringing down the mountain snows and rains, and attaining their maxima



Above: The Loire, streaked with sandbanks as it meanders past Amboise, in Touraine.

Right: The Rhone enters Provence at Donzere, where it is harnessed to provide power for the atomic centre of Pierrelatte nearby.

in summer. On the other hand it is also the recipient of the waters of the placid Saone, that second *Seine* among French rivers, with its winter maximum. In spring, it is the turn of the Doubs, flowing down from the Jura. The net result is that the *Rhone's* flow is reasonably constant, with maxima in May or June, and a minimum in September. This does not mean that flood-levels do not occur, but because of the breadth of the *Rhone* valley the floods tend to spread across it rather than build up to heights which, with a river of such magnitude, would be highly dangerous.

Lastly, there is the *Rhine*, flowing along the borders of Alsace, at a stage in its career where it is still largely Alpine in regime, with a swift current and a spring maximum. But this king among the rivers of Europe has been so domesticated, so canalised and straightened, that it no longer poses any threat to the French population on its west bank.



Historical Background

Out of the complex of natural factors which we have so far been considering has grown the remarkable attachment of Frenchmen to their native soil, and a corresponding lack of interest in emigration to distant lands. Few other nations have had the same opportunity to pursue their destiny equally by land or by sea, but in French history the land has always taken precedence, and the two overseas empires which France successively gained and lost were—apart from Canada before 1763 and North Africa in the past century—little more than colonies of exploitation.

It was through the Roman occupation of Gaul, and its organisation behind the sheltering barrier of the Roman *limes*, that the territories which were one day to form the state of France first achieved some semblance of unity. Administrative order was accompanied by an extremely thorough latinisation and the gradual but total disappearance of the old Celtic languages (almost the only traces of which are to be found in the names of certain rivers).

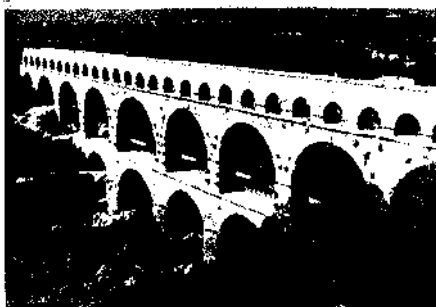
The first Germanic invasions in the third century put a stop to progress until the fourth century brought with it the Christianisation of the country, pioneered by St. Martin. Then the substitution of a new ecclesiastical authority for that of the enfeebled state made possible the rebirth of a political order on the ruins of the earlier civilisation.

This opportunity was seized by Clovis, King of the Franks. Having overthrown the last Roman state on the Middle Loire, he embraced Christianity in 496, so winning the support of both the bishops and the rank and file of the Church. With their support he was easily able, in the following years, to overpower the rival Burgundian and Visigoth kings who had remained pagan. Thus there was brought about that alliance of "throne and altar" which, for four centuries to come, was to be the foundation of royal power in France. In much the same way, it was Clovis's choice of the island of Lutece in the Seine as his residence in 507 that henceforth fixed Paris as the heart of the French state.

When the name Francia was first used, in the sixth century, it signified in broad terms the lands between the Loire and the Ardennes, from Orleans and Sens to Soissons and the Aisne. When it came to be used more precisely, it referred to what is now known as the Ile-de-France, with an even more restricted application to the little *pays* of "France" immediately north of Paris. The term was generally used in contrast to "Neustria", which lay to the west, and "Austrasia", which lay towards the Rhine, and corresponded to an area where, to the present day, the place-names reveal the presence of a definite Frankish element amidst the Gallo-Roman population. Burgundy, or Aquitaine, or Armorica (the last recently invaded by the Bretons) did not, during the Merovingian period, consider themselves as part of Francia.

The brief splendour of Charlemagne's Empire, Germanic and yet Latin in character, saw France absorbed into this Little Europe and, at the same time, extended to the Channel and the River Main. Then, after the threefold partition of the Empire at Verdun in 843, where the first rough outlines of Europe's later nation-states can be seen taking shape, the term Francia found a wider connotation in the names of the three divisions of the empire: *Francia Orientalis*, *Francia Media* and *Francia Occidentalis*. As time went by, the first designation was soon limited to the German province of Franconia (modern German—/rawA-fM); the second fell into disuse and was replaced by Lotharinga (modern Lorraine; German *Lothringen*); the third, *Francia Occidentalis*, alone persisted in its ninth-century form, and in the tenth century was applied to an area roughly approximating to modern France—the territories bounded in the east by the Meuse, the Saône and the Rhone, and stretching in the west to the Pyrenees and the sea. But it was to be a long time before the geographical term corresponded to any idea of a political or national unit.

On the death of the last of the Carolingian kings the Crown was offered in 987, on an elective basis, to the most powerful of his nobles, Hugh Capet (who was, significantly enough, "Duke of



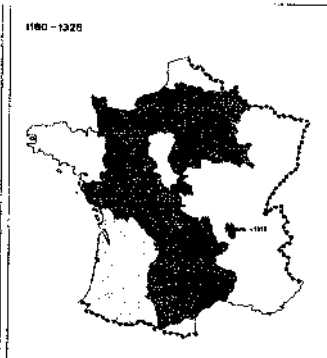
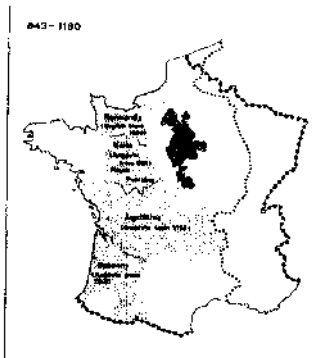
Above: The aqueduct of the Pont du Gard, near Nimes, one of the most magnificent relics of Gallo-Roman civilisation.



Top right: Chateau Gaillard overhangs the Seine on the frontier of the Duchy of Normandy.

Right: Laon, favoured by Charlemagne, and among the chief towns of XIIIth century France.





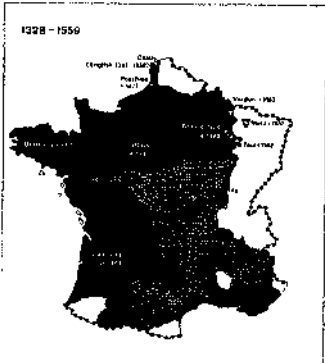
The Evolution of France

Map 1 (top left)

The partition of 843 excluded France from the basins of the Rhine and the Rhone. The royal domain was limited to the Ile-de-France, and in the twelfth century the western half of the country passed by marriage into English hands.

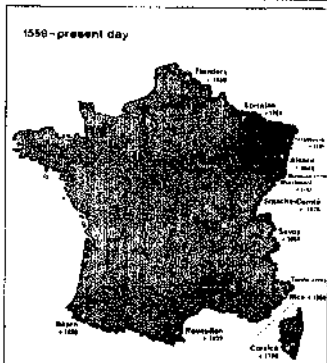
Map 2 (top right)

The thirteenth century saw a great expansion of effective royal power, largely at the expense of



Map 3 (bottom left)

The French monarchy suffered a severe setback from the revival of English power in the west and north during the Hundred Years' War; the secession of Burgundy posed a further threat. By the middle of the sixteenth century, however, the kingdom had been reunited, and had expanded approximately up to its natural frontiers in the



Territory under English control at various points in the Hundred Years' War (1337-1453)

Map 4 (bottom right)

In a series of bitter struggles from the seventeenth century onwards, the frontiers of France have been pushed east and north to achieve the symmetrical 'hexagon' of today.

Tu Germany 1871-1918

France", that is of the region "Entre Oise et Loire"). On the basis of this duchy he and his successors assembled piece by piece a recognisable kingdom of France, profoundly dynastic in character, but bound together by ties of language.

By the eleventh and twelfth centuries, the French language, derived from low Latin and Germanic origins, was finding expression in its earliest literary forms, and the urban and commercial life of the Middle Ages was beginning to stir; but the domain of the French king consisted merely of a narrow belt of territory between Senlis and Bourges -beyond it, the sovereign was merely the feudal overlord of his restive vassals. In the east, and for several centuries to come, Lotharingia beyond the Meuse and Saone would acknowledge the suzerainty, not of the French king, but of the Holy Roman Emperor. In the west the whole country, from Normandy to Auvergne and Gascony, passed in 1153 into the hands of the English king. In the south, power lay in the hands of the Counts of Toulouse who, although recognising the technical sovereignty of the French king, had much closer ties with Spain than with France. North and south, indeed, had little in common.

The beginnings of national cohesion can be traced to the reign of Philippe Auguste, early in the thirteenth century. It was a cohesion brought about through the reconquest of the west in a first series of wars against the Plantagenets, and through the truly national victory over the German Emperor at Bouvines. In the south, too, the savage religious wars waged to stamp out the Albigensian heresy resulted in the annexation of Languedoc and the weakening of the power of Toulouse. From now on the north and the *laugue d'oïl* (sec p. 28) emerged as the centralising forces in the national life. Whereas Roman Gaul had been created from a core in the south, modern France grew from the north.

But six centuries were still to elapse before the unity of France was an accomplished fact. It happened in two main periods of consolidation. In the first of these, during the fourteenth and fifteenth centuries, the Capetian and Valois kings made their main efforts at freeing French territory in the west and south from English domination. Then in the second period, from the fifteenth to the eighteenth century, incessant pressure by Valois and Bourbon on the Hapsburg Empire carried the French eastern frontier to the Rhine. The process began, as we have seen, with Philippe Auguste in the thirteenth century, but progress was spasmodic, interrupted by

periods of recession; it continued during the Hundred Years War although the reality of French power was severely tested. Twice over, in 1360 and 1420, civil war was superimposed upon the struggle against the common enemy. But thanks to the victories of Joan of Arc the war ended by producing a clear consciousness of national unity with the dynasty at its head. An attempt to establish an independent duchy of Burgundy (which would re-create the old Lotharingia, between France and the Empire; threatened progress for a while, but quickly foundered, and one by one the peripheral provinces fell to the crown of France: Brittany was brought in by a royal marriage, and the Rhone was reached and crossed with the annexation of Dauphin and Provence in the fourteenth and fifteenth centuries.

After a golden century of prosperity and expansion between 1450 and 1550 came the appalling setback of the Wars of Religion between the Roman Catholics and the Calvinists, which brought back the calamitous conditions of the Hundred Years War. As a result, the sixteenth century saw no addition to France's territory other than the four towns of Metz, Toul, Verdun and Calais.

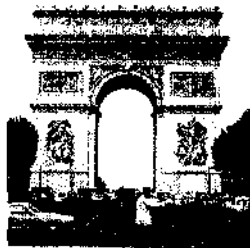
With order re-established by Henry IV (who also added Beam to France), the struggle against the House of Hapsburg began again in the seventeenth century. Conditions inside Germany worked in France's favour, while at home the scheming Richelieu skilfully manipulated friend and foe alike, ruthlessly crushing every vestige of domestic opposition for "reasons of state". As for the monarchy, after 1652 it was growing increasingly into an absolutism, under which the nation came to be identified with the personal power of a king who cherished the vision of a mighty France extending to the eastern limit of ancient Gaul the Rhine. For two centuries from 1618 to 1815 France was the political arbiter of Europe, lying as she did between the politically fragmented states of Germany and Italy, the declining power that was Spain and a Britain preoccupied overseas. Expansion towards the north-east was at times slow and piecemeal, at times rapid and voracious; but the process was unremitting. There was Alsace, annexed between 1648 and 1681, Artois in 1659 (the same year that Roussillon in the extreme south-west was joined to France), Franche-Comte in 1674, Flanders and Hainaut as a result of the Treaty of Nijmegen (1678). This left only Lorraine to be added in 1760 and Corsica in 1769.



Versailles, completed in 1680 at the climax of Louis XIV's reign, remains the supreme expression of the splendour of the Grand Siècle.



The Bastille symbolised the abuses of the Ancien Régime; the anniversary of its fall (14 July 1789) is now celebrated as a national holiday.



The Arc de Triomphe, built to commemorate the victories of Napoleon, has come to represent the military aspirations of French national feeling.

In the meantime the monarchy, riding the crest of its fortunes, revived the working alliance of Crown and Church in a campaign to wipe out Protestant heresy. But by this time Europe was beginning to understand the meaning of toleration, and the edicts of the Revocation of the Edict of Nantes in 1685 are generally agreed to have been unfortunate. Religion, in so far as it was associated with the Established Church, was made to appear, rightly or wrongly, as a force for conservatism and reaction. The rupture with northern Europe's Protestantism and with its accompanying economic development can be held partly accountable for the relative industrial retardation of France in the two following centuries. However, the eighteenth century had brought prosperity; the loss of a first colonial empire—in Canada and India had passed almost unnoticed at home, and as the echoes of the Revolution of 1789 reverberated around Europe, the influence of France in continental affairs rose to its height. In face of the menace of armed coalition against her, and to replace the old concepts of royal sovereignty and dynastic loyalty, there emerged the new concept of a sovereign people, opposed to federalism and centred on Paris. Yet it was a concept which, paradoxically, was to culminate, less than

ten chaotic years later, in the personal power of one man Napoleon — and which provoked such a reaction in the rest of Europe, that its ultimate effect was to strengthen and emphasise the very division of the Continent into nation-states to which, in theory, the Revolution was opposed. And at the end of all the glorious wars of the Revolution and the Empire, what territory had France to show for her immense efforts, her tremendous sacrifices? Nothing but the papal enclave of Avignon, and the towns of Mulhouse and Montbeliard.

In 1815 France, previously the greatest power in Europe, became simply one among several equals on the continental scene, confined within the frontiers of 1792. The next century saw a succession of insecure regimes: first, for fifteen years, the old Bourbon absolute monarchy was restored; then, in 1830, it was ejected by the collateral and constitutional "Orleans" branch, itself overthrown in 1848 by the Second Republic whose short life ended three years later in the Second Napoleonic Empire; this lasted nineteen years and was swept away by the Third Republic, which survived for a record seventy years. Then the alternation of parliamentary and authoritarian regimes was resumed: during the German occupation there

was the "French State", then, after liberation in 1944, the parliamentary governments of the Fourth Republic; most recently, since 1958 there has been the presidential rule of the Fifth Republic.

The years of political instability in the nineteenth century had been on the whole peaceful ones in Europe: France grew more and more prosperous, and was able finally to complete her "hexagon" by the acquisition in 1800 of Savoy and Nice, and to extend her territories across the Mediterranean through the conquest of Algeria. The loss of Alsace and Lorraine in the brief war of 1870-1 was a severe blow, and France sought compensation by turning her attention overseas. There she tried to erect a new colonial empire; but her dream of a Greater France was shattered, less than a century later, by the disintegration of the "white man's world". Victorious but exhausted at the end of the First World War (which gave her back Alsace-Lorraine in 1918, but cost her a whole generation of her young men), France was to know her darkest hours in 1940. Defeated, sharing the fate of the rest of continental Europe, France shared too in its hopes and fears, its eventual release and its amazing renaissance. In the great advances of the years since 1950 France has played her full part. And she must go on doing so in the future, as these advances bring closer the final goal- the complete supra-national integration of Western Europe.

Top right: The Palais Bourbon, seat of the French Parliamentary Assemblies and the centre of political power under the Third and Fourth Republics.

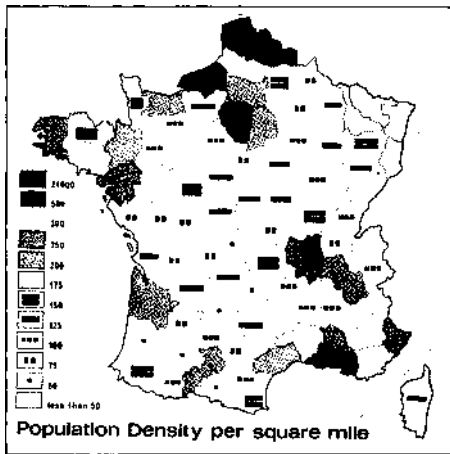
Right: The Elysee Palace, official residence of the Head of State, and centre of political power since 1958.

Population

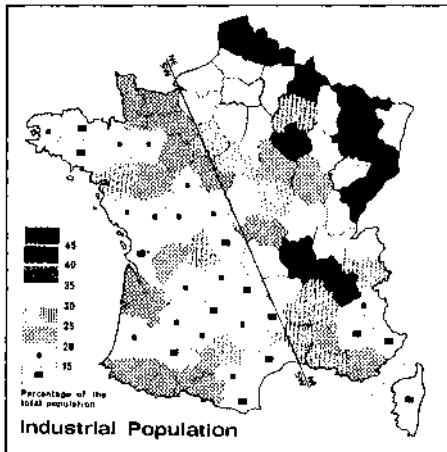
Most estimates agree that, between the late Middle Ages and the beginning of the eighteenth century, the population of France in times of peace and prosperity was generally about 20 millions, but that in times of civil strife, famine or disease—the Hundred Years War, the Black Death of 1348—it might fall temporarily to less than half that figure.

A general increase in numbers began in the eighteenth century, and at the first official census in 1801 the population had reached 27 million. Under the Empire, France had the largest population of any European state. In 1851, the total was 36 million, and at that time the countryside was densely and very evenly populated; the few large towns, apart from Paris, accounted for only 3 per cent of the total.

It was at this point of time that two processes began to take effect. One was a fall in the birth-rate and the other was a rural exodus that emptied the countryside and contributed to the growth of the new industrial centres. As a result of the first process, France for a hundred years slipped progressively further behind her neighbours in population. Between 1851 and 1901 the increase in the nation's population was a meagre 10 per cent; between 1901 and 1946 it was nil. Numerically, France fell from first place to fourth among the nations of Europe. As a result of the second process, however, the urban population doubled in the century after 1851, though at the same time three-quarters of all the French *departements* lost population. This was the position in 1946. But since then, and especially since 1954, the situation has altered radically, both in France and in Europe generally. Thanks to a fall in the death-rate (to 11 per thousand) the population of France has increased by 8 per cent in eight years, and in 1968 stood at 50 million. The recent rise in the reproduction rate—now slightly falling off—has underlined the fact that it is the regions of the north which have contributed most of the increase—the area north of a line through Savoy and the Middle Seine to the Vendée. However, despite the overall gain the rural exodus

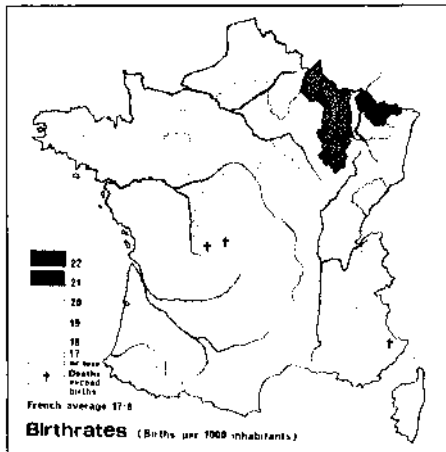


continues. Essentially it is produced by the most active age-groups moving away, in the first place from the most remote hamlets and then, progressively, from the larger settlements—those, with up to a thousand inhabitants. With the passage of time, therefore, much of the French countryside has come to have the appearance of a relative desert—fertile and cultivated but deserted none the less—in which the towns play the part of oases and more than ever today absorb the national increase and the migratory movement of the population. In all, the population of France today is 58 per cent urban. More than one Frenchman in every four lives in the small towns in the 5,000 to 30,000 population range, towns whose historic role as com-



mercial centres and focal points of provincial life can be traced in their buildings and monuments. But it is the medium-sized towns of 30,000 to 100,000 inhabitants which are particularly on the increase. Only Paris, among French cities, has more than a million inhabitants, and apart from Paris and the Lyons-Saint-Etienne conurbation all the fifteen largest French towns are to be found in peripheral locations, along the land frontiers or the coast.

If today the distribution of large towns is uneven, so also is that of the rural population. West of a line from La Rochelle to Valenciennes the countryside, in spite of the rural exodus, still has a density of 100 persons per square mile, a figure that rises to 250 in



Brittany and in the extreme north. On the other side of France, Alsace and the Moselle valley have a rural density of 125 per square mile. But between these two areas is a wide intermediate belt, whose axis runs from the Central Pyrenees to the Ardennes, in which the density seldom exceeds 50 per square mile.

These regional differences in France have often been remarked upon, and attempts have been made to define them by dividing the country into two halves. Every school textbook makes reference to the dividing line in its physical geography which runs from Givet to Bayonne, separating Mountain France from Lowland France. Then there is the dividing line used by human geographers, the line of the

Loire, which separates north from south on a basis of climate, ethnography, customs, or the distinction between the *langue d'oïl* and the *langue d'oc* or "occitan" (sec p. 28).

But for a century past, there has been another division steadily gaining in importance, a division not marked by physical features, but significant in terms of demography, economics, and social structure. If we draw a line on the map from the estuary of the Seine to the delta of the Rhone, then we have cut France into two equal parts, with what we may call "Atlantic France" on the west side of the line and "Continental France" on the east. The Paris region lies on the line and forms a separate entity between the two.

"Continental France", with its superior resources, its advantages of position, its links with such main axes of European movement as the Rhine and the transalpine routes, its closer connections with the focus of the nation in Paris, has provided most of the initiative for the nation's progress during the past half-century. "Atlantic France", bordered on three sides by the sea or the Pyrenees, lacks contact with other populated areas; its soil is less rich and its mineral resources are poorer. Despite the considerable progress it has made in recent years, it is a region less able to adapt to the realities of the modern world than "Continental France". It has great charm, but it is a rustic charm that recalls the past rather than a progressive way of life suggesting a competitive future for the region within Western Europe.

The contrast between the two regions can be demonstrated in a number of ways. In 1802, the two regions each had exactly the same population—46.7 per cent of the national total, with Paris accounting for the remaining 66 per cent. A hundred years later, because of a low birth-rate and steady emigration, the Atlantic region had lost a million inhabitants and accounted for only 36 per cent of the population. The Continental region, however, had gained 4 million, and retained the same 46.7 per cent share of the total which it had possessed a century before, while Paris now accounted for 17 per cent. Then again, the population dependent on agriculture is two and a half times as dense in the Atlantic region as in the Continental. The native industries of the Atlantic region have in far too many cases decayed, and there has been little to replace them except a certain number of overspill industries decentralising from Paris. Today "Atlantic France", with half the area of the state, accounts for only some 15 to 20 per cent of the national product. It is true

that there are discrepancies locally in this simple division of France into two regions; true, also, that "Continental France" is by no means free from problems; but the widening gulf between the two regions presents a serious problem.

Patterns of Settlement

If there are striking regional contrasts in population density, there are other rural contrasts no less marked. These are differences in the forms of settlement, forms which vary from locality to locality with the environmental conditions, and the agricultural and ethnic background.

Three main types of settlement can be distinguished: agglomerated, dispersed and associated settlement. The first of these is a legacy from the old open field system and the blocks of woodland which were associated with it. The Trench areas of agglomerated settlement form a pan of a larger zone that stretches across Central Europe, a zone where boundaries are clear and straight, subsoils are permeable in character, and farms are grouped round the infrequent sources of water. This is the zone of *Gewanddorfer* of Celtic or Germanic origin, ancient farming communities whose activities were regulated by strict rules. The zone covers the whole of north-eastern France, from the southern Jura and Morvan to la Beauce and the mouth of the Seine, with some exceptions such as the Vosges, the Boulonnais and coastal Flanders. Beyond this zone, the same type of settlement is found in a number of fertile and easily cultivated *campagnes* or *champagnes*, in Berry, Poitou, Beam and Limagne.

By contrast, dispersed settlement is found in the west, the south-west, and the centre of France, especially in areas of impermeable strata, where springs and streams are widespread. Here the farms are scattered across a landscape which is close-set and bosky, criss-crossed by earth-banks, stone walls, hedges or lines of trees—the French *bocage*. In Brittany and the Massif Central, dispersion takes the form of hamlets of a few houses each, with a sprinkling of individual farmsteads. In Aquitaine, the isolated farm predominates. Lastly, in Mediterranean France, more closely packed settlements—villages and small towns—provide a focal point for the scattered farms and hamlets: a typical combination of the two elements of the settlement pattern.

The contrast between the life of the "villager" in north-east France, with his many daily contacts and his generally communal activities, and that of the "countryman" in the south-west, more isolated, more conservative, and more individualistic, has certainly been a factor in the divergent development of the two regions.

But the rural exodus which we have already considered has another aspect. In emptying the villages and hamlets of France, it has accelerated a counter-trend which has become most marked since the Second World War: the tendency for town-dwellers to have a second house in the country. By this means, whole hamlets may become a sort of colony of a neighbouring city: the inhabitants are in the country but not of it. These "secondary residences" already represent more than 10 per cent of all rural dwellings, although it must be added that they are very unevenly distributed. Apart from the coast and the high mountains, where they are naturally numerous, holiday homes are especially on the increase within a 50- or 60-mile /one around Paris (there is an obvious parallel with the London area), and wherever there are attractive leisure areas - forests, lakes, or simply countryside within easy access from a main road to the city. In this way, some districts where the population has long been decreasing have been revived by the influx of new life and capital. In rural communities lying even closer to the main cities, a comparable development is to be found. Here, too, the rural population has been replaced, this time by commuters who work in the city and merely sleep in the "dormitory" areas of the outer suburbs. The styles of building and the materials used in constructing these



Top right: The century-long drift from the countryside has depopulated villages such as Roche-colombe in the Cevennes. Nowadays, however, holiday-makers from the towns are reviving at least a seasonal life in the villages.

Right: Antony, one of the great complexes of planned, collective residential development on the most modern pattern, which are rising in a number of places on the outskirts of Paris; these attempts to concentrate and co-ordinate the growth of new housing stand in sharp contrast to the haphazard sprawl of little detached suburban villas among which these great blocks and towers are set.



rural dwellings vary from region to region granite in Brittany, drystone in the Massif Central, brick in the clay vales of the north, according to the geological resources of the area. The shape of the roof reflects both the climate and the settlement history—the high Germanic roof, formerly thatched and later tiled or slated, giving a good run-off for rain or snow; the lower roof of the Mediterranean region, covered with curved tiles still known as "Roman". Different ideas about the housing of men and animals and the storage of crops also lend variety to these rural buildings. There are regions where the buildings are laid out round a courtyard; in the cereal-growing

regions of the Paris Basin this courtyard is enclosed, while in the livestock-raising areas further west it is open, to allow the stock to move about more freely. Elsewhere, everything—farmer, stock, crops—is housed under a single roof and, in most of western France, on a single level. In the east and south, by contrast, two or more floors are often found. This last distinction reappears, rather curiously, in the urban architecture of the regions concerned: the townfolk of the Rhine and Rhone Basins tend to build tall, multi-apartment houses, while those of the north and west seem to prefer low, single-family homes.

A large farm on the closed courtyard plan: this impressive arrangement, with its vast barns and outhouses, was evolved to meet the needs of arable farmers in the Paris region.



Farm buildings, dispersed around a courtyard which is open for the free movement of cattle, are favoured in the grasslands of western and central France; this example comes from Normandy.





Above: Poligny: a quiet provincial street in eastern France.



Top right: Villedieu: the market-place of a small country town in Lower Normandy.



Right: Vallauris: a square shaded by plane-trees in one of the small towns of the Midi. (The statue in the centre is the work of Picasso.)

Language and Religion

The French language developed out of the opposition of two dialects: the *langue d'oc* or "occitan" of the south, and the *langue d'oïl*, or "francian" of the north. It was in the thirteenth century that the latter became the written language of the country, and gradually established itself as the French language proper. The *langue d'oc* was found all along the Mediterranean coastlands (where, of course, it has left its name in the region of Languedoc) and over the Massif Central. Today, all that remains of the *langue d'oc* are some dialects, such as *Provençal*, and a certain singing tone which one finds in the speech of France's southerners. But along France's borders, north and south alike, one encounters a variety of forms of speech which are non-French in origin, yet which are very much alive. In Alsace and Lorraine, almost 2 million people speak a Germanic dialect. There is a Flemish-speaking area around Dunkerque and Hazebrouck. Around Finistère, in Brittany, Breton is still spoken. In Bayonne and Moulton 200,000 people speak Basque, a language whose area of currency straddles the Pyrenees. Catalan is spoken in Roussillon, and an Italian dialect by the 160,000 Corsicans.

If there are French citizens who do not usually speak French, however, it is also true that the French language is found beyond the borders of France—spoken by a million Swiss and 3½ million Belgians, and on the Italian side of the Alps, in the valleys of Aosta. Beyond the Continent, there are the French Canadians (the only white group outside Europe whose mother tongue is French), Haiti (where French is the official language), and the former Asian and African colonies of France, now independent, which use French in their external affairs.

Roman Catholicism is the religion of the great majority of Frenchmen, but active participation in the life of the Church varies greatly from region to region. The Protestant minority is of significant size

only among the Lutherans of Alsace and MontWliard, and the Calvinists of the Cévennes and Drome: elsewhere, it is generally represented by a narrow social stratum of industrial and commercial entrepreneurs, wealthy and influential. The same is true of the Jewish population, which is found concentrated in Paris and certain eastern towns.

Mention must also be made of the tremendous increase in the numbers of students (600,000 in 1968), which has resulted in seven new universities recently being built (mostly around Paris) in addition to the sixteen old-established universities.

Outside metropolitan France, the last small remnants of her first colonial empire have been promoted—thanks to an administrative fiction—to the rank of overseas departments (*De'partemens d'Outre-Mer*): the islands of Reunion in the Indian Ocean; Guadeloupe and Martinique in the Antilles; and Guyane (French Guiana). Apart from the last of these, which is almost uninhabited and largely undeveloped, these territories are populated mainly by black or mulatto peoples; their economy is based on the monoculture of sugar (although, it is true, the Antilles also produce bananas), and their future development is fraught with serious problems of overpopulation and poverty. The heavy deficit of these otherwise attractive islands is a constant burden to the French budget.

Top right: The *pardons*, or pilgrimages, of Brittany periodically bring crowds of devotees to a number of centres, such as Ste. Anne de la Palud.

Right: More than a million pilgrims and tourists every year visit the Basilica and Grotto of Lourdes, at the foot of the Pyrenees.

For the rest, what remains of the later empire has been classified under the title of *Territoires d'Outre-Mer*, and given representation in the French parliament. There are French Somaliland, New Caledonia and French Polynesia; in the western hemisphere, there are the islands of Miquelon and Saint-Pierre, the only French colony whose population (5,000) is entirely white. In the New Hebrides, France shares in a condominium with Great Britain. In all, some 1,300,000 French subjects are to be found outside France.

Other Nationalities

A number of factors are responsible for the presence on French soil of a large non-French population. For one thing, France has offered asylum after two world wars to many political refugees from eastern Europe. For another, she has drawn upon the huge unskilled and unemployed labour force of the Mediterranean lands to supply her need for manual workers, and in so doing she has been able partially to fill the manpower gap left by the calamitous losses of the First World War. Much of the large seasonal labour force needed to help her farmers is drawn from abroad.

Each year, some 150,000 foreigners (about half of them Spaniards) enter France, in addition to 90,000 seasonal workers. They go to swell the ranks of the foreign population already in France. This includes 300,000 Spaniards, most of them either political exiles living in the south-west or vine-dressers in Languedoc, and now being joined by a recent influx of Portuguese. East of the Rhone, from Marseille to Grenoble, are numerous Italians, most of them farmers, with an even larger concentration in the iron-mining region of Lorraine, where they make up four-fifths of the labour force. Altogether, the Italians number three-quarters of a million. In the coalfields of northern France the majority of the miners are Polish, on the farms of Normandy there are Belgian labourers, in Yonne there are Dutchmen, and so on.

And then, of course, there is Paris—Paris with its cosmopolitanism in art and literature, and also its less-celebrated but equally influential international business community. One has only to study the Paris telephone directory or the "local news" columns in the papers, or note the names of winning athletes, to realise how great a contribution non-French elements have made to French life and how well assimilated these foreign elements have become.

Agriculture

France's agriculture is more than adequate to feed her population, and thanks to the great increases in productivity which have occurred in the twentieth century, and especially in the last decade (they amount to some 50 per cent in the past 30 years), there is a large surplus for export. This output is achieved by an agricultural labour force which, although rather larger than in most other countries of northern Europe, has been reduced by farm mechanisation and the rural exodus from 36 per cent of the active population in 1930 to 17 per cent today. (In Britain the figure is only about 2 per cent.) Forty years ago there were 4 million holdings; today, there are 2,260,000, with an average size of 57 acres. But 1,380,000 of them are less than 25 acres in extent, and a mere 20,000 exceed 250 acres. Of the farm holdings 82 per cent are cultivated, at least in part, by their occupiers, and the same proportion, 82 per cent, employ no hired labour.

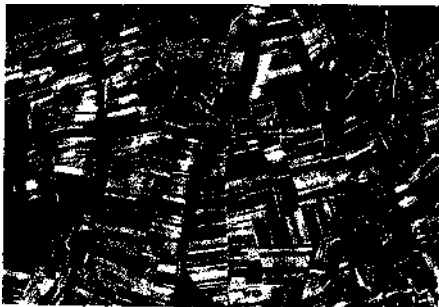
Such are the statistical details of French agriculture. But these averages are misleading, for they conceal wide differences in the agricultural structure from region to region. If we disregard for the moment a certain number of very small owner-occupiers, most of whom are market-gardeners or vine-growers, we may say that tenant farming is quite general north-west of a line running from the Ardennes to Orleans, and from there along the Loire to Vendée. It is noteworthy that this is the region where indices of farm mechanisation and use of fertilisers per acre are the highest in France. Everywhere else, owner-occupiers are in the great majority, although the old system of *metayage*, or share-cropping, is still to be found in the south-west and the Bourbonnais.

Eastern France is a region of very small holdings, worked by family labour and, except in Alsace, generally yielding rather low returns. The holdings, in turn, are divided into innumerable minute parcels, scattered here and there in open fields, in a manner which has changed little since medieval times. This same open field system, however, is found in the thirteen *departments* of the Paris Basin, and

there it is associated with large, or very large, holdings, almost industrial in their organisation, and high yields. Almost a half of France's cereals output is produced in this region. Here in the Paris Basin we find the lowest number of agricultural workers per unit of land cultivated, but also the highest proportion of hired labour, especially on the big farms north-east of Paris.

Western France is a region whose agriculture is associated with yields which are relatively high (and are steadily improving), but with a much larger than average input of labour per acre: with more than 30 farm workers to the square mile western France has, it is said, "an agriculture with too many hands". Southern France, by contrast, is a land where there is a mixture of large estates, many of them specialising in vines and all employing hired labour, and of small family holdings with the fields grouped round the farmstead. Arable land accounts for 35 per cent of France and permanent grass for 23 per cent. A hundred years ago, the corresponding figures were 53 and 10 per cent.

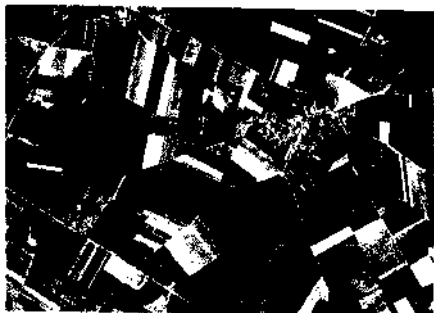
A three-year rotation of crops is normal in the north, and a two-year rotation in the drier south. A major element in both rotations is the cultivation of cereals. Here the trend in the present century has been away from the lesser cereals and towards concentration on wheat, barley and maize. Rye is now unimportant, and oats have declined, with the disappearance of the work horse, to only one-third of their acreage at the turn of the century; they are important only in Picardy and Artois. The production of wheat, on the other hand, has doubled since 1900, although the area under the crop has declined by 30 per cent. This has been made possible by increased yields: in the past ten years the national average has risen from 1 ton to 11/3 tons per acre, with especially rapid increases in the north-east. Barley is gaining ground year by year, especially in la Beauce. Maize is the cereal preferred in Gascony, but with the introduction of new varieties used as a fodder crop it has spread rapidly to northern France as well. In the south, the Camargue has become a great



Above: Lower Alsace: agglomerated villages of small proprietors, and intensive cultivation on the open-field strip system common throughout eastern France.



Top right: Lower Normandy, *bocage* predominates in western and south-western France—irregular enclosures framed by **banks**, hedges and trees, with a pattern of dispersed settlement.



Right: Picardy, agglomerated settlement **again**, but **agriculture here** is an **Industry**, with big estates cultivating the open-field strips in **large blocks**; common throughout the Paris Basin.



The stony hills of High Provence are too dry and thin-soiled for most agriculture; but olive trees thrive in great numbers on their scantily-grassed slopes, and are important in the region's economy.



The rich grasslands of Calvados, a department of Normandy, are often found planted with apple trees, and offer prime grazing for the dappled calves of the famous cattle bred in this locality.

rice-growing region and now supplies France's whole requirement of this crop.

Of the other main crops, potatoes are grown mainly in the north-east and Brittany, and sugar-beet in the northern part of the Paris Basin. Market-gardening and fruit-growing occupy 2 million acres, mainly in Brittany, Vaucluse and Roussillon, where they are generally found in the valleys and around the principal towns. Industrial crops are limited in extent—flax in Flanders and rapeseed on the chalk upland of the Pays de Caux; tobacco in Alsace and in Agenais in the south-west.

The vine is one of France's most important crops. The average Frenchman consumes 37 gallons of wine per annum. Although the area under vines has decreased in the past sixty years, it is still sufficient to produce 1,000 to 1,500 million gallons of wine each year. Of this, the greater part of the *vin ordinaire* comes from Languedoc and Provence. The famous vintages, whose names are carefully

registered, are found in the Bordeaux area, Armagnac and Cognac and Touraine in the west; in the Rhone valley and Burgundy in the centre; in Champagne, the Jura and Alsace in the east. And in the north-west, beyond the vine-growing regions, the apple replaces the grape, and cider is produced. This north-western region in fact possesses an excessive number of cider apple trees, many of which are now being cleared and replaced by orchards of eating apples.

The list of fruits for which France is famous does not, however, end here. In the Mediterranean region there are olives, peaches, apricots and almonds. In the Cevennes and Limousin chestnuts are an important crop, as they are also in Corsica. Perigord, Quercy and the Dauphine have their walnuts, Lorraine and the Garonne Basin their plum trees, Alsace its cherries. Soft fruits are grown throughout the west and the lower Loire valley.

The area under permanent grass in France has increased considerably during the present century. Apart from the mountain pastures,



Cereal farming on the grand scale flourishes on the alluvial plains of the Ile-de-France: the Valois, north of Paris.



Gathering the grapes at vintage time on the slopes of Burgundy—this is the climax of the vigner's year.



Hops are grown around Strasbourg in Lower Alsace to supply the city's numerous breweries where they are used to flavour the famous

the particular regions with a high proportion of their surface under grass are the western Channel coast, the VVocvre east of Verdun, northern Franche-Gomte, the Bourbonnais around Moulins, and Morvan and Charolais to the north and east of it. Temporary grass and green fodder crops alfalfa, clover, sainfoin—account for another 11 million acres of cropland—that is, an acreage equal to the area under wheat. Finally, there are 10 million acres of heath and rough grazing, and 12½ million which are unfit for agriculture. Livestock-raising, as a branch of farming, has made even more rapid progress than agriculture as a whole, and most particularly in improving the quality of the stock. France has some 9 million pigs, and the chief producing areas are the north-east, Brittany and Limousin. The number of sheep has greatly diminished during the past hundred years, and is little more than one-quarter that of the 1860's. Those that remain are mostly to be found in southern France, in the Causses, Beam, Limousin and the mountains of Provence.

for milk.

By contrast, the number of cattle has risen by 30 per cent in the last fifteen years, and now stands at 21 million head. Great efforts have been made to improve the various breeds. Some regions have specialised in beef cattle - Charolais, Nivcrnais, Parthcnay, Salers—and with good effect: the output of beef has increased by 50 per cent in fifteen years. Others have concentrated on dairying, for the production of dairy products *per capita* in France (23 gallons a year of milk or its equivalent) is the highest in Europe. Milk production per cow, however, is a good deal below the average for northern Europe. Normandy is unrivalled as a butter-producing region, although Brittany, Charcnt and the Upper Saone valley are also important. The list of famous French cheeses is a long one: at its head stand Oruyerc from the Jura, Camembert from Normandy, and Roquefort, made from ewe's milk in the Causses.

Forests and Forestry

One-fifth of France is covered by forests. The character of the cover, however, varies from region to region. The northern and western coastlands, for example, have few compact forest areas: here, in the *bocage* (sec p. 24), trees are found growing in the thick hedges and orchards rather than in blocks of woodland. The Massif Central and Middle Garonne Basin in the same way possess little true forest. By contrast, the landscape of open fields in the Paris Basin contains a good deal of woodland; and so, to an even greater extent, does the east of France in general, where as much as one-third of the surface is forested. The forests spread across areas whose soil makes them unfit for agriculture—dry limestone plateaux, pebbly alluvia, clay-with-flints. Further south, a dense forest mantles the Vosges, the Plateau of the Jura, the lower slopes of the Prealpes, and the mountains of Provence and Savoy. South of the Gironde stretch the Landes of Gascony, a sandy area transformed, in the nineteenth century, into an immense pine forest.

France has 10 million acres of coniferous and 10 million acres of deciduous forest. In the north the dominant species is the beech, which is to be found, too, mixed with spruce and fir, on the lower slopes of the mountains. The centre of France, from Perigord, to the Franch-Comte, is the domain of the common oak, and the south-west that of the pedunculate oak. In Provence we find the evergreen oak and cork oak mixed with pines. The great pine forests of the Landes have already been mentioned: in the north, the nineteenth century saw the planting of considerable stands of Scots pine and maritime pine on the heaths and drained bogs of the Sologne and Brenne, or on the chalklands of Champagne.

Two-thirds of these forests are privately owned. Some 15 per cent are the property of the state, which alone can undertake today the upkeep of the splendid fully-grown trees that are such a feature of the environs of Paris. A good deal of the forest cover is in the form of coppice and brushwood, and as such used to play an important part in the economy by supplying firewood. The picturesque and

scented forests of southern France and Corsica, however, have been devastated and degraded by recurrent fires sweeping through them; instead of the forest there grows up a sparse cover of shrubs and bushes—the *maquis*. In Languedoc, the degraded forest landscape is called *garrigue*; it consists of a stony surface dotted with dwarf oaks and its vegetation is entirely valueless.





Left: The Vosges and Jura mountains of eastern France are thickly clad with coniferous forests.



Above: The immense pine forests of the Landes, though ravaged by fires, supply material for paper-making.



Top right: Chestnut groves provide a valuable supplement to the economies of Limousin (*shown here*), the Cevennes and Corsica.

Right: The *maquis*—forestland degraded into tangled thickets of scented bushes—covers the major part of Corsica.



Industry

France's industries—which employ 41 per cent of the labour force—have always been more renowned for the quality of their inventiveness and the excellence of their prototypes than for their ability or readiness to mass-produce for modern markets: like the nation as a whole, they have been individualistic in their attitudes. Even today, it remains true that most industrial enterprises are in the small and medium-sized classes; only 1,000-odd employ more than 1,000 workers, and a mere handful of concerns employ over 10,000.

But under the stimulus of developments within the European Economic Community, of which France is a member, and spurred on by American competition in Europe's markets, French industry is rapidly changing its character, both economically and geographically. Almost daily new consortia are formed; agreements are signed between firms; centralised managements are set up. On the geographical side, French industry is decentralising its production, though slowly, even while it is concentrating at the managerial level; attracted by government subsidies, some firms have removed their works—though not the head offices—from the Paris conurbation to the provinces.

The desirability of decentralisation and the scale of the problem become clear when we realise that more than a quarter of all France's industrial plant is to be found in the immediate vicinity of the capital. This proportion is much higher still for the industries concerned with finished products, especially consumer goods like motor-cars and clothing.

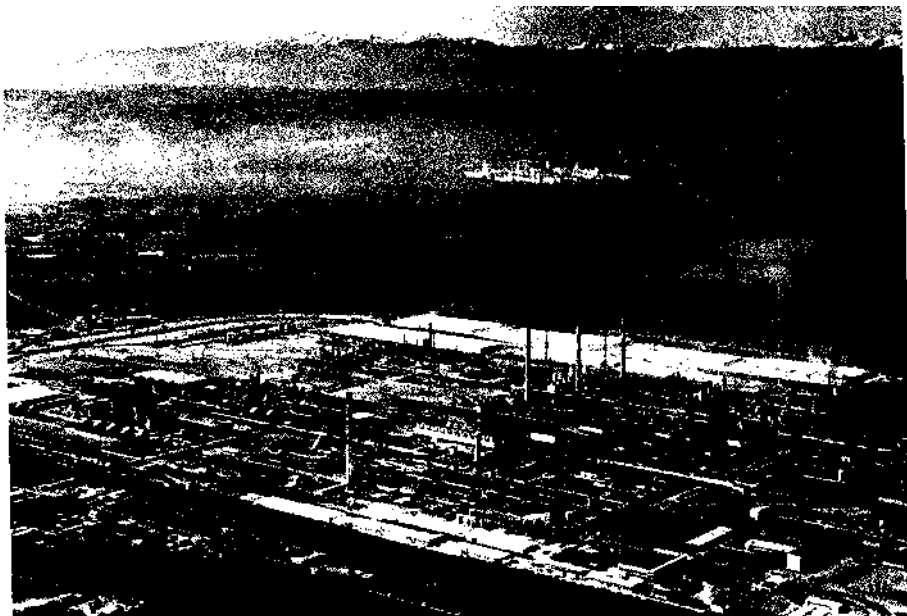
Outside Paris, the main industrial regions are: (1) the Nord, a region stretching roughly from Dunkerque to Maubeuge, (2) Lorraine and Alsace, from Thionville to Montbeliard, (3) the south-east, the Rhone-Alps region, including as its main centres Saint-Etienne, Lyons and Grenoble, (4) the Paris "ring"—the towns within approximately 100 miles of the capital to which, as we have already seen, industries from Paris are moving out. Apart from these regions of industry, there are important, but more localised,



The ultra-modern works at Carling, on the German frontier, where coal from the Saar basin (the most productive mining region in France) is converted into coke, gas and chemical products.

industrial areas around the principal ports: Marseille, Rouen and Le Havre.

Such old-established industries as steel-making and textiles are naturally concentrated in the older industrial regions—50 per cent of France's steel is produced in Lorraine, and nearly 40 per cent of her textiles come from the Nord region. Chemicals are produced in a variety of areas, according to their raw material base—on the coal-fields, beside the salt pans, around the petroleum import terminals or, together with non-ferrous metals, in the electricity-rich Rhone-Alps region. Sugar-refining is concentrated in the north-east of the Paris Basin, fruit-preserving and canning in Brittany, the manufacture of rubber goods in Auvergne and of aircraft at Toulouse and Marseille. Other industries, like glass, leather, paper and pottery, are more dispersed in character. The young electronics industry, together with the subsidiaries of the Paris car industry, seem to be bringing new life to a number of small centres as they spread out around the capital, replacing by their modern industrial presence many a traditional local industry.



The methane gas and sulphur works at Lacq, in the middle of the countryside of Beam; the associated residential city of Mourenx, a completely modern creation, can be seen in the middle distance, with the Pyrenees showing on the horizon.

Transport and Traffic

The Sea

With her rich resources of land and soil, and her face turned inland to the European continent, France has never, save for a few short periods of her history, looked to the sea to play any major role in her affairs, and this despite the length of her coastline and the favourable position she occupies in relation to maritime routes. The capacity of her merchant fleet is sufficient to handle only about a half of her overseas trade: the fleet has a tonnage of 6 million, and ranks tenth in the world in size. French passenger ships have a justly-deserved reputation for comfort and efficiency, while half the tonnage of the fleet consists of tankers. Passenger traffic has decreased steadily over recent years, owing to competition from the airlines; there has been a fall of one-third in the number of passengers carried between 1959 and 1966. By contrast, freight traffic has grown considerably, and has at the same time changed in character during the past decade. It now totals 165 million tons (compared with 56 million ten years ago), with import tonnage exceeding that of exports in the ratio of 4 : 1, owing to the greater weight of raw material imports and the smaller tonnage of high-value manufactured exports. The growth in tonnage is, in fact, almost entirely accounted for by petroleum products, which make up two-thirds of the total freight tonnage and nine-tenths of the traffic of the two leading ports, de Berre and Le Havre.

These two ports, completely demolished during the war, have been admirably reconstructed and modernised. Between them, they handle half the nation's trade—55 million tons pass through Marseille, and 43 million through Le Havre, gateway to the Paris Basin. The other half passes through such ports as Dunkerque (16 million tons), the outlet of the industrial north; Rouen, the other outpost of Paris (12 million tons); Nantes, with 11 million tons, and Bordeaux, with 7 million, the ports of the Atlantic coast, whose progress has been less rapid since they serve a hinterland which is

almost wholly agricultural; and Sete, which handles the wines of Languedoc and deals with 4 million tons of freight per annum. Together, these second-rank ports are responsible for 30 per cent of France's sea-borne trade. The remaining 20 per cent passes through smaller ports and the main passenger ports—Calais, Boulogne, Dieppe and Cherbourg. Finally, a good deal of traffic to and from the east of France travels by Antwerp or the Rhine waterway.

Considering the possibilities of France's position, offshore fishing has not been greatly developed. This may be due to the small part played by fish in the Frenchman's diet. Owing to improvements in equipment and larger boats the number of fishermen has fallen from 75,000 before the war to 43,000. The favourite fishing grounds are at the entrance to the English Channel, off the south coast of Ireland, in the Gulf of Gascony and along the coast of Mauritania. If one excludes the catch of crustaceans from Brittany, shellfish—especially mussels from Aiguillon and oysters from Marennec, Arcachon and Morbihan—and the salted cod which is the speciality of Fecamp, the total catch amounts to only about 400,000 tons annually—that is, a quarter that of Great Britain.

Commercial fishing is carried on from the eastern Channel ports, with Boulogne as centre, and these ports account for half the total catch, and supply virtually all the demand for herring and mackerel. Another concentration of fishing ports is to be found in southern Brittany, and further south again the ports of Les Sables d'Olonne, La Rochelle, Arcachon and Saint-Jean-de-Luz carry on fishing for sardines and fresh fish all the year round, with tunny fishing in summer. The share of the Mediterranean coast in the national catch is limited to a small amount of fishing for tunny and anchovies.

Today, the significance of the coast and the coastal towns in the national economy depends far more on the tourist and holiday-maker than on the value of their fisheries.

Inland Waterways

Although it represents chronologically the earliest form of goods transport, transport by water is really important only in the north-eastern corner of France. Until recently, even in the north-east, the dimensions of the navigable routes arid, particularly, the innumerable short locks, hampered the development of water transport by holding barges to a 300-ton draught fixed in 1879.

Today, however, freight movement by water in this corner of France has increased to considerable proportions. The *Seine* is navigable for vessels up to 1,300 tons from Rouen as far as Paris ami Montereau, and 8 to 10 million tons of cargoes arc moved on it annually, mostly upstream. At (*onflans the Seine is joined by the Oisc, which, prolonged by a network of canals, provides a link with the industries and coalfields of the N'ord region, and carries 5 to 7 million tons of freight per annum.

For much of the distance between Basle and Strasbourg, the *Rhine* has been diverted so that a large part of its waters flow through France, by way of the (*hand Canal d'Alsace*, begun in 1928. This diversion was undertaken with the twin objects of improving Rhine navigation (especially past various natural obstacles just north of Basle) and of generating electricity, since there is a considerable gradient on this section of the Rhine. The canal accommodates vessels of up to 1,350 tons displacement (this is now a standard figure for the major waterways of Western Europe). Already the port of Strasbourg handles over 5 million tons of freight per annum, and thus exceeds in importance many coastal ports of France.

Finally, mention must be made of the canalisation of the *Moselli*, which was carried out between 1956 and 1963 and links the iron of Lorraine and the coal of the Ruhr. The waterway is constructed to the 1,350-ton standard, and runs for a short distance across France before entering Luxembourg.

Except on the Moselle, trans-shipment must be carried out everywhere on the eastern border of France, from Strasbourg to Belgium, where water routes cross the frontier. In fact, the whole subject of water transport in France is one surrounded by vain hopes and discarded schemes; so far, among many projects, only that for the *Canal du Nord* has been brought to fruition. Its purpose is to



The Grand Canal d'Alsace: this ambitious project, begun in 1928 and recently completed, has diverted the major part of the waters of the Rhine, and is now one of the most important arteries of water transport in France; it links Strasbourg and Basle, and produces 6,000 million kilowatts of electricity in seven power stations spaced along its length.

supplement the *Canal de Saint-Quentin* by a Goo-ton standard waterway with only half the number of locks on the older route. Inland water transport remains the poor relation among the transport services in France.

Road, Rail and Airways

The network of roads in France dates in its essential outline—that of a series of major routes radiating from Paris—from the reign of Louis XIV. Today the total length of France's roads is now close to 500,000 miles, the greater part surfaced with tarmac or concrete and well engineered. This dense road network has been, up till now, well adapted to the country's needs for the circulation of traffic at moderate speeds: France has 1 motor vehicle to every 4 inhabitants, but only 23 motor vehicles to every mile of road, a figure which is well below the West European average for 1968. But with the steady increase in the numbers of vehicles on the road and, in particular, with the rise of international road traffic, the shortcomings of the French network are becoming clear. The country possesses, so far, only a few short stretches of motorway, and the new European network of international routes (the "E" roads) touches only the eastern edge of France.

The main railway routes of France were brought into being during the period 1850 to 1870, in accordance with a plan drawn up in 1842. Like the roads, the railways were planned to radiate from Paris, where the terminal stations represent, as they do in London, breaks in communication between east and west, north and south. After 1870, few main routes were added to the system, but the period up till 1910 saw the addition of a network of secondary lines and narrow-gauge feeder lines.

In the period since about 1930, however, a change in policy has made itself felt. While the road network has been strengthened, many of the branch railways have been either closed to passenger traffic or taken up altogether. To replace them, bus services have generally been introduced, giving more flexibility of route and service.

French Railways (S.N.C.F.) has concentrated, like British Rail, on its main-line services, and today almost all these are electrified, while the remainder are usually operated by diesel railcars. The speed and comfort of the main expresses are unrivalled in Europe,



Above: The recently completed road bridge at Tancarville, just above the mouth of the Seine, links Upper and Lower Normandy.

Right: Orly Airport, south of Paris, is the most important in France.

and goods traffic has been maintained at the high figure of 240 million tons per annum. Some of the principal routes are among the most heavily used in Europe—in particular the Paris-Marseille line and the Lorraine-north of France route with its bulky mineral traffic. On the whole, however, the frequency of passenger services outside the Paris suburbs is low by comparison with that of neighbouring countries. It is calculated that two-thirds of all France's rail passengers pass through the Paris termini.

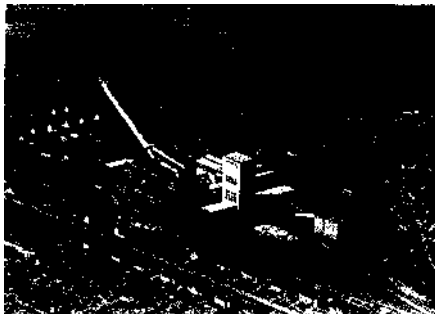
Air traffic is developing from year to year, with a growth rate of 10 to 15 per cent annually. Outside Paris, the busiest airport is that of Nice. Within the Paris area there are two main fields, each 7 to 8 miles from the city centre—Le Bourget to the north and Orly to the south. Of these, the latter is now much the more important. It handles some 9 million passengers and 150,000 flights annually.



Sources of Power

Coal, petroleum, electricity: with these three sources of energy France is very unequally supplied. Electricity and gas she has in sufficient quantity for all her current needs; but her resources of coal do not meet present demand, and her resources of fluid petroleum products are wholly inadequate.

It was coal which provided the indispensable raw material for the economic progress of the nineteenth century, with its heavy industries and its developing transport system. During this coal-based phase of industrialisation, France, not being rich in coal, was at a certain disadvantage *vis-à-vis* her neighbours, until in due course other sources of energy began to compete with coal. France possesses only what are, in effect, the tail ends of the great coalfields of north-central Europe. Her two principal fields are extensions across her frontiers of coal-producing areas of Belgium and Germany. Furthermore, these French fields are deficient in some important varieties of coal, especially anthracite and coking coal. France is therefore obliged to supplement her national coal production of approximately 55 million tons per annum by importing a further 20 million tons. The most important field—that of the Nord and Pas-de-Calais — is a westward extension of the Belgian Sambre-Meuse coal basin. It was first worked in about 1730, and it extends from Valenciennes to Douai, then turns north-west (while the coal-seams dip downwards to great depths) through Lens to Bethune and Bruay at the foot of the hills of Artois. This deeper western section was not opened up until the 1850s. But the whole western field presents serious difficulties in mining. Working these deeper mines demands an amount of labour which is quite uneconomical today, and one by one the pits west of Bethune are being closed: whereas, before the last war, this area accounted for 60 per cent of French coal output, the figure has now fallen to 45 per cent.



A pithead standing between its vast waste tips and the small modern workers' houses on the outskirts of the city of Lons, in the western sector of the coal-mining basin of the Nord.

Production in the other main field, however, has been steadily increasing at the same time as that of the western Pas-de-Calais has been in decline. The basin of Lorraine is the French portion of the Saar field, and mining is carried on in several areas that adjoin the Franco-German frontier (in one case actually *underneath* the frontier). With an output per man-shift of 2-8 tons (Pas-de-Calais 1-6 tons) the Lorraine mines now produce 14 million tons per annum, and this includes a quantity of coking coal.

The remainder of the nation's coal output (with the exception of an anthracite mine at La Mure, near Grenoble) comes from a dozen or so small fields situated in and around the Massif Central; but these workings are gradually being closed down. Lignite is obtained from the district around Gardanne, near Marseille. Coal is suffering from the competition of other energy sources, but as demand for coal has fallen off, its place has been more than filled by demand for petroleum and gas. Consumption of petroleum has more than trebled since 1950, and in 1966 reached 53 million tons.

Systematic exploration of all possible oil-bearing strata was rewarded in due course by strikes in the Paris area and then, by the more important discovery of oil in Beam and Gascony, where the wells around the Etang de Parentis now produce some 3 million tons per annum. Finally, in 1954, deep down beneath the valley of the Gave-de-Pau in the south-west, immense deposits of natural gas (methane) were tapped around Lacq, deposits large enough to supply the entire national demand for gas. Already a network of pipelines to distribute the gas northwards is taking shape. The 3 million tons of petroleum which France produced in 1966 left a gap between output and demand of 50 million tons, to be met by imports; 27 million tons of those imports came from the Middle East, chiefly from Iraq, and 19 million tons from the fields in Algeria's Sahara. The most important refineries for treating imported crude oil are those of the Lower Seine and the Etang de Bene near Marseille, while the Lower Loire, the Gironde estuary, Dunkerque and Strasbourg play a lesser part. Pipelines link the refineries with inland markets—the Lower Seine with Paris, and the Etang de Berre with Lyons, Alsace and West Germany.

France today is extremely well supplied with electric power. Consumption of electricity has tended to double every ten years, but the hydro-electric potential of France's rivers is only 30 per cent developed and is itself equal to more than the present annual consumption. At present 43 per cent of the total output is produced by water power and 57 per cent by thermal power stations. Of these latter, the main ones are situated in the north of France, located in relation to coal supplies and to the principal rivers.

By contrast, the main producers of hydro-electricity, together with the dams and reservoirs on which they depend, are almost all situated in south-eastern France, south of a line from Bayonnac to Strasbourg. The largest single producer is the system of eight dams and power stations on the *Grand Canal a'Alsace* (see p. 39), which has a capacity of some 1.2 million kilowatts. Second in order of size comes the system on the Lower Rhone, between Donzerc and Bollène—a series of barrages on the river without reservoirs which together have a capacity of 1 million kilowatts. Other important schemes have been constructed on the Upper Rhone and on the Alpine rivers—Arve, Isere, Durance—with their steep gradients and high dams. In the Massif Central, the Truyere and Upper Dordogne have been turned into veritable staircases of dams and so, too, have the many Pyrenean

rivers. Finally, electricity is also generated by tidal power (though at high cost) on the Rance estuary near Saint-Main; and by nuclear power in several stations either under construction or already in operation.

Just as France was hampered in the nineteenth century by poor coal resources, so she suffered also from a lack of metallic ores. She possessed, it is true, the Lorraine iron, but before 1871 it was for the most part too phosphoric to be used for steel-making, and after 1871 the field was cut in two by the frontier imposed on France by Germany after the Franco-Prussian War. It was not, in fact, until 1918 that the whole area underlain by the ores—the area, that is, between Thionville, Longwy and Briey—reverted to France, and only then were the French steel-makers able to take full advantage of the Gilchrist Thomas process for handling phosphoric ores which had been introduced in 1870.

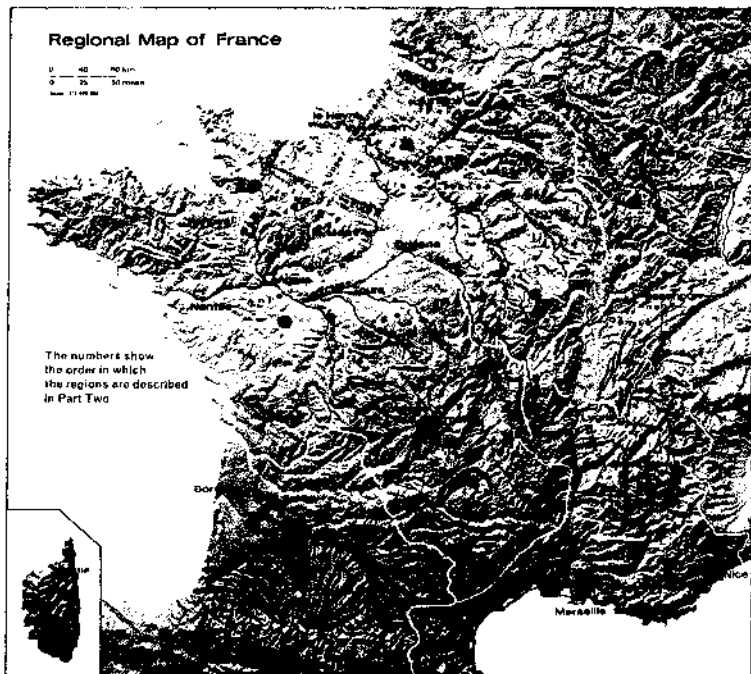
The Lorraine ores outcrop around Thionville, and dip away to the south-west, in the direction of Briey and Nancy. Although they have a metal content of only 33 per cent they are second only in importance to the Swedish ores in Europe. Annual output is some 60 million tons, and reserves are estimated at 0,000 million tons. These ores account for 94 per cent of France's production. They represent one of the most important of France's export commodities (in addition to supplying home industry), but a commodity which is highly vulnerable to competition from higher-grade foreign ores. Indeed, several mines have recently been closed and some ironworks transferred to the sea-ports, e.g. Dunkerque.

With one exception, France's supplies of ores other than iron are negligible. That exception is bauxite, the basis of the large French aluminium industry. Bauxite can be readily mined by open-cast methods in the hills of Provence (it takes its name from the small settlement of Les Baux, south-east of Avignon), and in the Mediterranean *department* of Herault. Uranium has been found in Vendee, in Charolais, and especially in the Moots d'Ambazac in Limousin, and is used in the nuclear energy plant at Pierrelatte. Salt is obtained from the sea in the salt-pans of the Mediterranean coast at a number of locations between Hyercs and Narbonne, and on the coast of Brittany. Rock-salt is worked in Lorraine, where Triassic and Liasic formations correspond to those of Cheshire in England. And the great potash beds discovered in 1904 north of Mulhouse in Alsace more than suffice for the nation's needs.

Regional Map of France

0 40 80 km
0 25 50 miles
Scale 1:1,000,000

The numbers show
the order in which
the regions are described
in Part Two





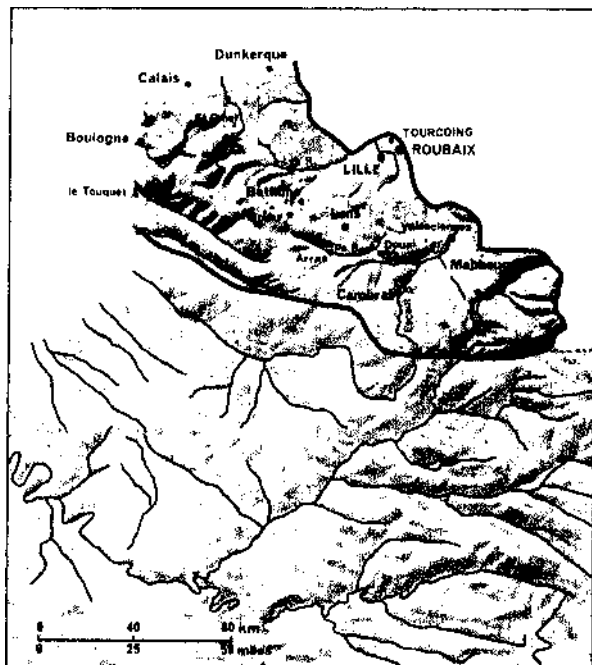
The Tam Gorges

PART TWO

The Regions

France is one of the most diverse and at the same time one of the most centralised countries in the world ; now she is facing up to the problem of redividing her territory in such a way as to restore regional individuality to its true importance, while at the same time striking a delicate balance between two incompatible forces —on the one hand the irresistible attraction of Paris, with its tendency to expand, and on the other the overwhelming need for revival and growth in the provinces. To this end, 21 economic regions have recently been designated, some corresponding to the old provinces, others carved out more or less arbitrarily.

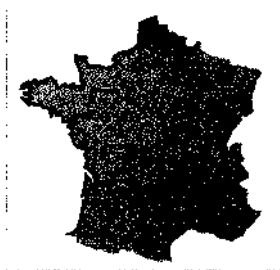
In the following survey of France, which is intended to give some idea of her infinite variety, it has not been possible to adhere exactly to the new administrative divisions: instead, ten zones have been drawn, each as far as possible comprising a natural economic or historical community. Several of these zones do in fact coincide with the new regions or with the old provinces, particularly around the periphery of the country. The Massif Central and the Loire Basin are more difficult to divide up; and the growing area of Parisian influence requires a grouping round the capital of slices from several neighbouring provinces, outside the boundaries of the ancient Ile-de-France.



Population of principal towns (1968)

Lille (conurbation)	841 300
Lille-town	190 300
Roubaix	114 400
Tourcoing	98 700
Lens	*326 800
Valenciennes	*229 500
Douai	*205 300
Bethune	*144 700
Brusy	*126 500
Denain	*120 200
Dunkerque	143 300
Calais	94 200
Boulogne	92 700
Maubeuge	81 300
Arras	72 100
Armentières	50 500

*mixing conurbation



The Nord Region

Misty fringe of the territory of France; terminal point of the lowlands which stretch across Europe from Russia to the Channel coast: this is the Nord, a region that occupies in French geography a distinctive and privileged place. Though its position may be on the periphery of France, the region is certainly no backwater, but an integral part of the great manufacturing belt of lowland northern Europe. From the spires and towers of cities which for centuries have been bustling centres of life and commerce the eye ranges over a countryside where, during those same centuries, every available parcel of land has been under cultivation, where heaths and wastes are unknown. Farm, factory and mine have together conspired to endow this region with a many-sided richness that is unique in France. Its people are a mixture of Fleming and Walloon—although they all have a knowledge of the French language—and in this it resembles Belgium, the neighbour with whom it is so intimately linked, socially and economically.

Although agriculture accounts for only a tenth of the region's employment, that tenth is sufficient to secure for the Nord all manner of agricultural records: records for the diversity of its crops—cereals, potatoes, sugar-beet, peas, tobacco, flax, hops, chicory—cultivated with a care and technical skill found nowhere else; records for the input of fertilisers and the output of farm products—animal and vegetable, meat and milk, sugar and wheat. These record-breaking farmlands include coastal Flanders, with its heavy soils, its lush pastures intersected by ditches—the *waleringues*—its lines of little houses of coloured brick, strung out along the country "streets", its occasional isolated farms. And they include, too, the Walloon areas of Hainaut and Cambresis, every inch under cultivation around the big, compact villages.

Industry employs half the region's labour force, and is no less diversified and go-ahead than its agriculture. With food manu-

factures, coal-mining, metal-working and the production of textiles, machinery, pottery and chemicals, the industry of the Nord is second only to that of the Paris region in size and variety, and includes some very large businesses. It is widespread, and there are few cantons in the region which do not possess some manufactures. However, there is a weakness in the structure, in that the Nord lacks most of the newer industries which have developed so greatly since the last war—electronics, motor vehicles, synthetic fibres and plastics. From the human point of view, the region also suffers from the drawback that its industries are situated in a dreary landscape, save in the extreme east, where the land rises gently towards the wooded slopes of the Ardennes.

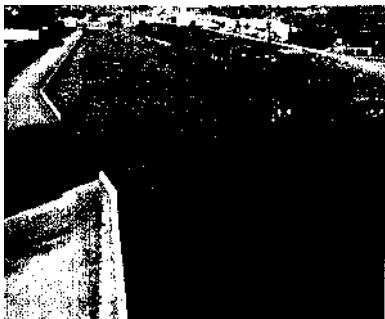
The towns have spread across the region until their suburbs have joined each other. Apart from particular sections composed of office blocks or better-quality housing, these towns typically are made up of small, single-storey dwellings, their exteriors often blackened by grime, where the industrial workers and the miners live. In these towns, life is dominated by the factory.

Dunkirk is the region's principal outlet to the sea. Rebuilt from the devastation of 1940, it now competes with Antwerp, importing ores, petroleum, wool and cotton. It has recently acquired, also, the first modern French steelworks to be located on tidewater. To the west lies Calais, at the foot of the chalk uplands, the region's other port. English until 1559, Calais still retains something of its connection with Great Britain: it is the base for a number of French subsidiaries of British firms, and the chief transit port for passenger traffic to Britain.

The main built-up area is the Lille conurbation, which overflows across the frontier into Belgium. It is composed of three main cities, whose aggregate population, if we include suburbs and satellites, makes it second only to Paris among the conurbations of France.



Cornfields and coal-mines: the Nord leads in the production of **cereal and root** crops as well as of industrial materials such as coal.



The Canal du Nord, finished in 1965 after a long history of abortive schemes, speeds the transport of heavy goods between the Nord and Paris.

Lille is the capital of the region, its cultural, commercial and administrative centre; it manufactures textile machinery and has maintained its importance in the region despite a rather slow rate of growth in recent years. The two other main centres are the twin towns of Roubaix and Tourcoing, headquarters of the woollen industry, and of the manufacture of carpets and upholstery cloth. But they possess many other industries besides these, especially the production of chemicals. By contrast, Armentières and the towns of the Lys valley specialise in linen and jute goods.

Further south lies the "Black Country" of the Scarpe and Fscail valleys. Some 800,000 people live in the string of mining towns

which stretches for more than 50 miles westwards from Valenciennes, with its endless succession of mines, slag-heaps, blast-furnaces, factories, railway-works and chemical plants. Between Valenciennes at one end of the line and Bethune at the other, the most important centres are Denain, Douai, formerly the seat of parliaments and now encircled by factories, Lens and Bruay. OU^o to the south-west lies Arras, at the foot of the hills of Artois, where the traveller coming up from the south will first become aware of the Flemish-style gable-ends on the buildings—those Flemish gables that are such a feature of European architecture everywhere north of this point.

Further south still lies Cambrai, where the chief industrial products



Above: Thierache, a little district of hills and dairy farms tucked away between the Ardennes and the factories of the Nord.



Top right: Little single-storey houses line roadsides all over the great Flemish plain, these typical examples are at Cassel.

Right: The port of Dunkerque, serving the industrial north, has recovered from the disaster of 1940 and is rapidly expanding as an industrial centre in its own right, particularly in the chemical and metallurgical industries.



are embroidery and sugar, and Le Catcan and Fournies which make woollens. Finally, to the east, there is the important group of towns on the Sambré, around Maubuge, whose growing industries include glassworks and potteries, a whole range of heavy steel products, wire-drawing and the manufacture of railway stock.

The coastlands of northern France end where the line of the hills of Artois, rising from 300 to 600 feet above the Flemish plain, mark the northern edge of the Paris Basin. Artois, like Picardy further to the north, is a countryside of rolling chalk hills and broad, marshy valleys, a land of bare horizons and wide fields of wheat and sugar-beet, sprinkled liberally with market-towns and tree-ringed farming villages. In the north-west of the region, by contrast, lies the breached anticline of the Boulonnais, where Jurassic materials, largely sands and clays, are exposed and give rise to a more broken landscape of hill and valley, a region formerly renowned for the horses it bred. The hills terminate at the Channel coast, where the white cliffs around Cap Gris Nez face across the Channel towards those of Dover. At the mouth of one of the valleys stands Boulogne, fishing port, rival of Calais for the Franco-British passenger traffic, and manufacturing centre of a small metal-goods industry based on local supplies of coal and Jurassic iron ore. South of Boulogne, the coastline of the chalk upland is fronted by a broad belt of marshes and sand-dunes, dotted with pines, and among these stands France's most elegant northern resort, Le Touquet, patronised by French and English visitors alike.

The XVIIIth century houses of the two main squares in Arras, with their picturesque and characteristic Flemish gables, were meticulously restored with loving care after the terrible devastation of the 1914-18 War.



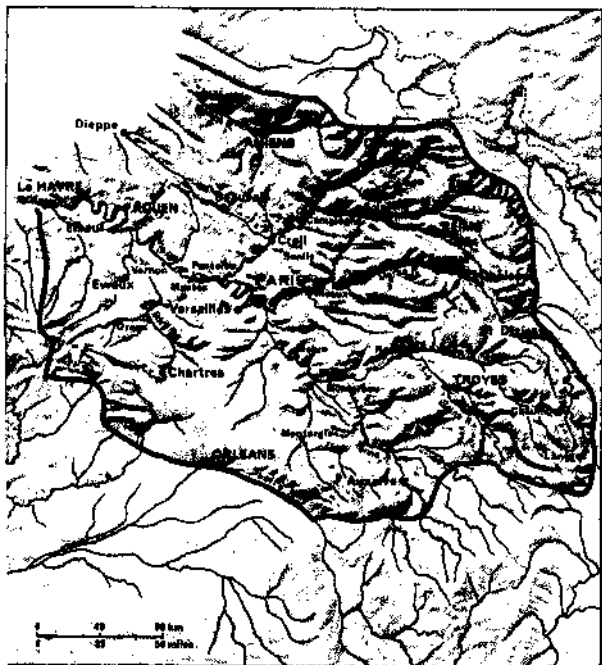
Above: The dreary, blackened rows of miners' dwellings in the Nord are giving way to healthier and more attractive housing.



Top right: Valenciennes, an ancient town partly reconstructed after the last war, is the centre of the mining and metallurgical conurbation of l'Escaut.

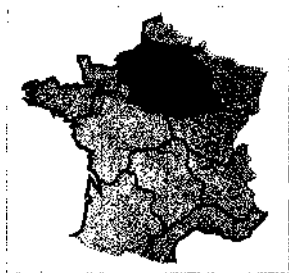


Right: Unloading fish at Boulogne, France's leading fishing-port, which supplies half the total national consumption.



Population of principal towns (1968)

Paris (city)	2 581 800
Paris (area)	8 182 000
Rouen	369 800
Le Havre	247 400
Reims	167 800
Orleans	167 500
Amiens	136 700
Troyes	114 200
St. Quentin	70 700
Creil	66 500
Charleville	63 900
Chartres	59 400
Mantes	58 000
Melun	57 200
Chalons-sur-Marne	56 000
Evreux	c. 49 000



The Paris Basin

The Paris Basin of France, cradle of the nation's destiny, occupies one-third of its territory. It was apparently formed in the Tertiary epoch on a section of the Hercynian base of the Continent which underwent depression at the same time that the Alpine folding elevated neighbouring areas to form the present massifs which surround it.

As a result of the movements of water in the Mesozoic and Tertiary periods, what we find today in the Paris Basin is a regular sequence of beds forming a series of concentric circles, the younger beds towards the centre, and the majority of them clays and limestones. The sequence is very regular and complete on the eastern side of the Basin, in the area between the Hercynian pillars of Morvan, Vosges and Ardennes. Each formation, from Triassic to Eocene, from Lorraine to Brie, makes its presence known by an outward-facing step or scarp, whose dip-slope is a broad plane surface gently inclined towards the centre of the Basin. In the north, on the other hand, the Jurassic beds are largely absent at the surface and the level chalk platform extends without a break to the edge of the Plain of Flanders. In the north-west, the pattern is interrupted by the waters of the Channel, but the same beds reappear in southern England. In the centre, there is an alternation of resistant limestones and easily-eroded clays that lends variety to the landscape. In the west, the Triassic beds are absent at the margin of the Basin, and the line of contact with the Armorican Massif is marked by broken, hilly country in Lower Normandy and Perche, and by an abrupt subsurface transition, but by rather shapeless and irregular relief in Anjou. Finally, in the south the covering of sands and clay-with-flints washed down from the Massif Central tends to mask an already rather slight relief and conceal the outline of the scarp-and-dip formations.

Over the greater part of the Basin the surface is low plateau cut by a

few broad valleys; watercourses are nowhere numerous, but few parts of the Basin are so dry as to be infertile. The whole centre and north of the Basin, on the contrary, possess a fertile covering of alluvial deposit. Two-fifths of the Basin lying in its central and northern sections are drained by the Seine, while the Moselle and Meuse cut across the plateaux of the eastern rim. In the south the Loire, emerging from the Massif Central, cuts across the southern edge of the Basin (which forms the most fertile section of its valley) before encountering the fringe of the Armorican Massif.

Within the Basin, altitudes reach 1,500 feet on the south-eastern rim at the Plateau of Langres, 1,200 feet in Lorraine and in Berry, 900 to 1,000 feet in the Normandy hills and down to 700 feet in the chalk downs of the north.

Paris

At the centre of its basin, and within that heartland of the French state known as the Ile-de-France, lies Paris. Crossroads of the nation, whether by land or by water, Paris has been the cradle of French unity; for a thousand years, indeed, France has depended for her very existence on the presence and the influence of Paris, for Paris is more than just the capital; it is a sovereign city in its own right. Was it not one of the first gestures of the Revolutionaries to bring back to the city the King of France, after 130 years of royal disdain of Paris and all its works? France would not be France without it. For the foreigner, Paris is the epitome of all things French, and the lens through which, for him, the rest of the country is brought into focus. Paris dominates the affairs of France, internal and external. Chosen as the permanent royal residence in the ninth century, and confirmed in this role and fortified by Philippe Auguste in the eleventh, Paris had by this time already left all its rivals far behind.



The Champs-Élysées, the capital's best-known vista, lined with fashionable shops, the rendezvous of the international set, runs from the Place de la Concorde to the Étoile. In the distance, on the right, can be seen the cupola of the Grand Palais.

In the course of the centuries seven separate lines of fortifications were built round the city (some of which can be traced in the lines of the present boulevards). Today, an administrative fiction maintains the municipal boundaries of 1860 to define the commune of Paris—an area within which the population (a,800,000 inhabitants) has shown no increase since the turn of the century. All the growth of the city has occurred outside the central area, in the adjacent suburbs and neighbouring communities. It has been a growth equal to the entire increase in the nation's population during the past hundred years. Five-sixths of the increase have been attributable to an influx from the provinces.

No exact definition of the extent of the Paris agglomeration is possible. All we can say is that about two-thirds of its population live or work in the dormitory suburbs and towns of the outer belt, and that, when a Paris district was recently organised for administrative purposes, it proved to contain a population of 8,900,000, or roughly one-sixth of the French total.

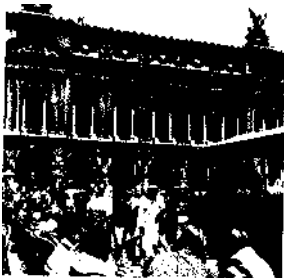
But even this figure does not do full justice to the weight of the city's influence in the political, cultural, economic and social leadership of the nation, or to the part it plays in the circulation of ideas. A sort of rendezvous for artists and thinkers from all over the world, Paris



The world-famous Place de la Concorde lies at the crossing of two vistas—from the Louvre to the Champs-Élysées, JIRI from the Palais Bourbon to the church of the Madeleine (in the background). Montmartre appears on the horizon, and the roofs of the Opera on the right.

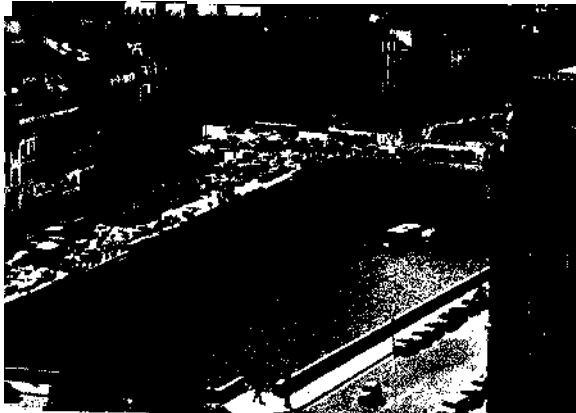
has succeeded in attracting to itself two-thirds of all the artists living in France and one-third of all the students working there, as well as leaders in every intellectual sphere. In Paris, the tertiary sector of employment occupies 62 per cent of the working population, compared with an average of 39 per cent in the remainder of the country. In short, no career can lead to any eminence without the blessing of Paris, or without at least maintaining some link with the capital. Of the direct taxes in France 40 per cent are levied within the agglomeration; most significantly, 82 per cent of France's registered companies have their head offices there. The effect of all this on many people is to make it seem a weary exile when they have to leave Paris and settle elsewhere. In spite of the attempts at decentralisation it seems clear that, for the foreseeable future, the vital managerial role will still be exercised, and will need to be exercised, from Paris.

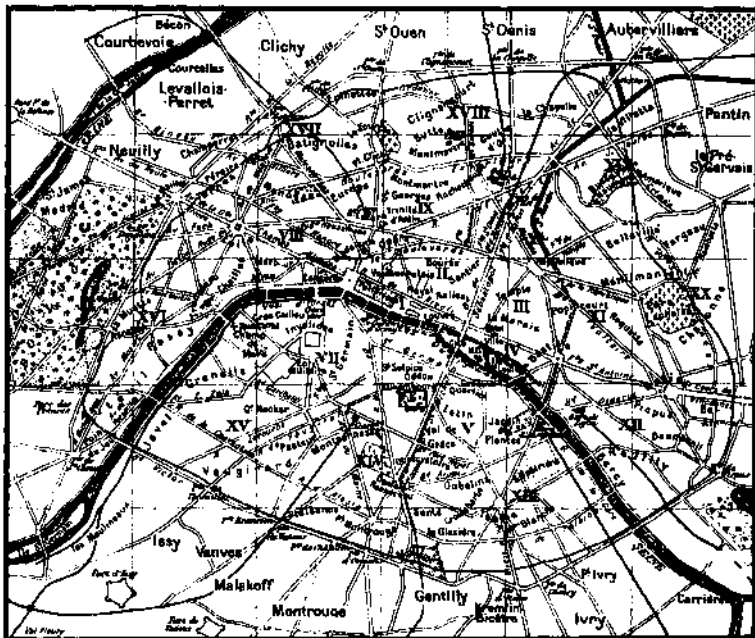
And what of the city itself? From Notre Dame to the Eiffel Tower stretches the smooth curve of the Seine, that familiar and splendid progression past bridges and monuments and great buildings. But it is not the isolated reminders of the Middle Ages, nor even the noble buildings of the seventeenth and eighteenth centuries, which constitute the true framework of the Parisian scene, so much as the



Above: The pavement tables of the Café de la Paix, one of the most popular cafes in Paris, are overlooked by the exuberant classical facade of the Opera, finished in 1873.

Right: View from Notre Dame: in the centre, the Eiffel Tower, built in 1889; to the left, the dome of the Invalides, the noblest XVIIIth century edifice in Paris and resting-place of Napoleon; nearby, the belfry of St. Germain-des-Près overlooks the capital's nightlife.





heritage of the nineteenth century—the broad vistas of the boulevards and the big stone structures built towards the end of the century, five or six storeys high, of contestable architectural quality, but like those of the English Victorian era with an air of solid well-being, four-square and confident—all the more so, now that they have been cleaned.

Within the city can be distinguished the different *quartiers* or districts— the commercial core and the area of the luxury trades in the city centre, encroaching from year to year upon the residential districts which border them on the west, and these residential areas in their turn spreading still further west and south-west into open country on the hills above the Seine; the university quarter with its intellectual and artistic associations on the Left bank, south of the

Buildings such as those, erected between 1875 and 1930—substantial, bourgeois, with their balconies and their five or six storeys of apartments—have shaped the character of the streets of Paris.



Seine; the east-central district with its artisan population and its small industries; the entertainment districts around Saint-Germain-des-Près and on the slopes of Montmartre; beyond these, the ring of modest dwellings that makes up the inner suburbs, broken only in the west — suburbs that all too often have little to recommend them from the planner's point of view. On the west side, on the wooded heights above the Seine, stand the former royal residences—Versailles, Saint-Gloud, Saint-Germain, Marly—now surrounded by high-quality housing. Finally, further out, there has been growing up since 1050 a belt in which, among the scattered dwellings of an earlier period, great groups of buildings now rise. Towering blocks of Hats ring the capital at a distance of 15 to 20 miles from its centre: some of them are prestige apartments and others are low-rental

A small Parisian square, and the entrance to a Metropolitan (Underground) station—opened about 1900, and very much in the Art Nouveau style of that period.





projects constructed as units to house 20,000 or even 30,000 people. Apart from the 4,000 acres of the Bois de Boulogne and the Bois de Vincennes, which really lie outside the centre of the city, Paris is very poorly provided with recreational open space for its citizens. To make good this lack, however, there are the magnificent forests of the Ile-de-France within easy access, and an increasing number of Parisians take advantage of these for their leisure activities.

The major industries of Paris are located in a broad zone that extends from Pantin in the north-eastern suburbs, across the Plain of Saint-Denis to the north of the city, and westwards to Argenteuil and Bezons on the Seine, and then southwards along the loop of the river to Boulogne and Sevres. Upstream from Paris the industrial belt reaches as far as Juvisy and Corbeil.



Top left: Looking along the Seine towards the Ile de la Cite, cradle of the capital; Notre Dame is on the right, with the Sainte Chapelle and the Palais de Justice towards the centre.

Left: The main reading room of the Bibliotheque Nationale in Paris, sanctuary of French literati.

Chartres: a distant view of the famous cathedral, seen across the ripening wheatfields of the vast plain of la Beauce—"the granary of France"; raising its spires serenely on the horizon, it strikingly justifies its title "cathedral of the cornfields".

The great forests which surround Paris are more than just a splendid setting for the capital; in the summer time they afford shady walks for the citizens, and in the autumn the chance of sport to hunting parties such as the one above.

Ile-de-France and the Central Basin

The Paris District, now officially recognised for administrative purposes, stretches its tentacles of built-up areas and satellite towns for 40 miles along the valleys which converge upon the city and form the lines of movement to and from it. But the true sphere of influence of Paris, the area whose population and livelihood are dependent on the presence of the city, is much larger still—perhaps a hundred miles in radius. It includes the Ile-de-France, parts of the Orleans region, Champagne and Picardy, and extends across Normandy down to the mouth of the Seine. It is the historic heart of the nation and the shrine of French art; here occurred the (lowering of Gothic architecture in the twelfth century and the Classical revival of the seventeenth; here flourished all the graces of the eighteenth century; here we have a region adorned with that wonderful chapter of noble cathedrals—Rouen, Beauvais, Amiens, Reims, Soissons, Troyes, Sens, Chartres.

A tour of these cathedral towns will reveal something of the variety

of the Paris Basin and its landscapes. South of Paris stretch plateaux whose surfaces are covered by a thin layer of millstone grit bedded in clay. They are dissected by a confusion of valleys which cross the Hurcpoix to reach the Seine, valleys generally broad and alluvium-filled, but with slopes broken in places by outcrops of Tertiary sandstone that form cliffs and pillars like those in the forests around the palace of Fontainebleau. Then beyond the Etampes ridge there begins a surface of fissured limestone, completely flat, covered with alluvial deposit, treeless and waterless: la Beauce. A land of rich harvests this, stretching to the horizon where the spires of Chartres rise; a land of austere villages set amid the huge hedgeless fields, where the farms are clustered round the few wells. Westwards this flat Beauce landscape extends to the foot of the hills of Perche. Eastwards it reaches the Gatinais and the sandy hills of l'uisay, and in the south it terminates at the banks of the Loire, where it gives way to the coppice-like growth of the wide Forest of Orleans.

Of the towns that ring la Beauce agricultural region, Dreux and Chartres to the north-west have benefited by the dispersal of industry from Paris, and manufacture of electronic equipment. Orléans in the south is an ancient city, seat of the Capetian Kings. Today it is undergoing a rapid industrial growth and, situated as it is on the bend of the Loire, is a key point for communications between the north of France and the south-west.

East of la Beauce lies the *département* of Yonne, crossed by the river of that name and its tributaries flowing down from Morvan. It is known for the Chablis wines it produces, and it is crossed by the main routes from Paris to the Rhone valley. As a result it is orientated towards Paris, and the attraction of the capital has drawn off its population, leaving deserted rural areas to be repopulated in recent years by the return flow of city-dwellers and holiday visitors which we have seen (p. 25) to be a feature of the region surrounding Paris. The geological sequence of beds encircling the Paris Basin continues across Yonne, scarp and dip succeeding each other from the Jurassic limestone that borders the Massif of Morvan in the south, to the open chalklands around Sens in the north.

East of Paris, between the marshy valley of the Seine and the banks of the winding Marne, with their sunlit orchards, there lies the limestone and clay plateau of Brie. It is the counterpart of la Beauce to the south-west, but is less dry, more dissected, and still possesses some of its original forest cover. This broad belt of arable land is divided into large farms, and cultivated from enormous farmsteads on the enclosed courtyard pattern which often resemble fortresses rather than farms.

North of the Marne, the landscape is very similar: great expanses of cereals and sugar-beet spread across this area of "industrialised" farming from the little *pays* of France (see p. 16) in the west, through Valois, to Soissons in the east. Beyond this town and the Aisne valley lies the district known as the Soissonnais, with its plateaux of Tertiary limestone where the little stone-built villages stand on cliffed edges and overlook the market gardens and the lines of poplars in the broad valleys of Aisne and Ourcq below.

As we continue our circuit round the Central Paris Basin we cross a belt of forested hills and reach the valley of the Oise. This is the main route linking Paris with the industries and towns of the north-east, and traffic along it is always heavy. It is a valley where factories and country houses are both numerous: it contains dormitory towns

like Pontoise and resort towns like Compiègne, and also metallurgical and chemical industries (in Créil).

The Oise joins the Seine just below Paris. This reach of the Seine valley forms clearly the most suitable line of expansion for the capital. At the moment, like the Oise valley, it is a curious mixture of beauty and ugliness: between Argenteuil and what used to be the lowest bridgepoint, at Rouen, the river flows between banks where villas alternate with factories, where a bend in the river may reveal either a picturesque castle or a smoking chimney. Barges and river craft plough their way past enchanting views and past cement-works, past offshoots of the Paris automobile industry and past old-world towns. Year by year these towns of the Lower Seine (for example, Mantes) find themselves growing and changing character thanks to their position on this vital axis of the French economy.

Upper Normandy

In today's geography, it is much more relevant to think of Upper Normandy as the seaward entrance to the Paris region, and as one of the granaries supplying the capital, than it is to regard it as possessing some sort of unity with Lower Normandy. The region lies across the Lower Seine and stretches to the coast. East of the river, it embraces the prosperous plateau country of Vexin, with its great agricultural estates. Beech woods grow on the clay-with-flints which covers its slopes, and at the river's edge rises a line of chalk cliffs, on one of which stand the watch-towers of the famous Chateau Gaillard. Across the Seine, on the western side, the limestone tablelands are equally fertile, surrounding the valley of the Eure with its green meadowlands, and running southwards in a level plateau surface at about 450 feet to merge into la Beauce.

Between Vexin and the Channel coast lies the Pays de Caux. Here again, chalk is the bedrock and alluvial deposit the surface material: valleys are few and where they exist, they contain extensive woods and small industrial sites.

Agriculturally, this is a region of very large farms, almost all tenant-operated, and the wide, rolling farmlands are under wheat and flax. Orchards surround the farmsteads, in turn protected by walls and windbreaks of beech trees. At its seaward edge the Pays de Caux falls away in a line of steep white cliffs under constant attack by the waves. On its eastern side, by contrast, it opens on to the

"button-hole" of the Pays de Bray—an inlier of Jurassic limestone which runs from north-west to south-east between Dieppe and Beauvais and which, in contrast to the surrounding arable chalklands, is a region of pasture and dairying.

Through this plateau country winds the Seine, its wide meanders backed by steep valley sides, whose forests overshadow the passing of a constant stream of river traffic. On one of its lower loops, and backed by hills, stands Rouen, port-city at the point of trans-shipment between river and open sea. Rouen is a veritable museum town, with magnificent buildings, both religious and civil, dating from the fifteenth century. It is also a major port and an industrial centre. Grouped along the waterfront are oil-refineries, chemical plants, paper-mills and metal-working industries. In the valleys behind are cotton mills, while a woollen textile industry is centred in adjacent Elbeuf.

The region's other ports are Dieppe, packet port for the cross-Channel service to NcwHAVEN, Fecamp with its deep-sea fisheries, and Le Havre. Situated in the lee of Cap de la Heve, where the Channel cliff-line ends at the Seine estuary, Le Havre has recovered remarkably from its destruction in 1944. It is the terminal for France's transatlantic passenger services, and as a cargo port it handles cotton and coffee. But its most striking post-war development has been as a petroleum import terminal. The largest modern tankers can berth at Le Havre and the cluster of refineries and petro-chemical plants which line the estuary form the largest oil complex in France. Away to the south, amidst the chalk plateaux, lies the town of Evreux. It has the distinction of being the most rapidly expanding industrial centre in France at the present time.



Top right: Rouen in its bowl of wooded hills, the Seine and the riverport, with the seaport in the distance. The old town and cathedral on the right contrast with the districts rebuilt after the war.



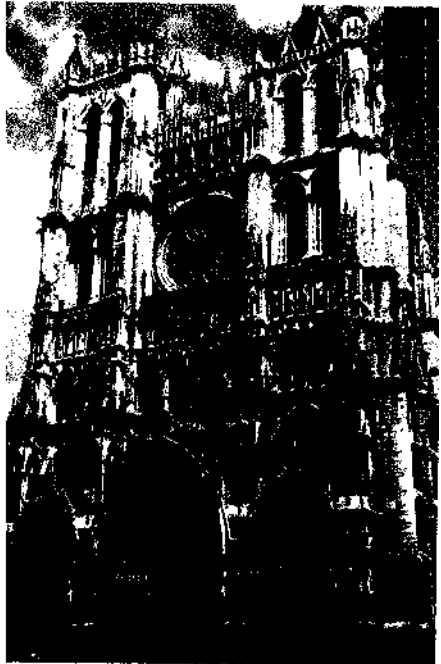
Right: Le Havre, almost obliterated between 1940 and 1944, has been replanned on the most modern lines. The ocean terminal is on the far right.

Picardy

The region of Picardy adjoins the Ile-de-France on the Middle Oise, and from there stretches north across monotonous chalklands where, on a thick and permeable topsoil of alluvial origin, grow broad acres of wheat and sugar-beet. It is a bare landscape, innocent of trees apart from the orchards that surround the tightly clustered villages. Buildings are of brick or of packed clay, and the farms are characteristically built on the closed courtyard pattern. The villages possess a number of small industries. Surface water is generally only to be found in the occasional valleys, but here the valley bottoms are marshy, the river channels braided and the How sluggish. The Somme itself provides the best example, with its peat-bogs, its canals, and its market gardens set as islands in the marshes. The low-lying coastlands are made up of sand-dunes and shingle, interrupted by a succession of estuaries and salt-marshes, some of which have been reclaimed. Only in the eastern part of the region is there a change in Picardy's landscape of bare, cultivated chalkland. This is Thierache, a wooded countryside where pasture predominates and dairy-farming is carried on.

The towns of Picardy contain many a reminder of their past. There is Amiens, the regional capital, the river reflecting the outlines of its cathedral, long known as "the miracle". Amiens makes woollen cloth and velveteen; it has also recently acquired an automobile industry and the manufacture of pneumatic equipment. And then there is Saint-Quentin, with its lace-making and textiles, its more recent mechanical and electrical engineering. Beauvais, on the borders of Picardy and the Ile-de-France, is famous for its carpets and the high-roofed choir of its cathedral, the loftiest in the world; it also manufactures tractors and brushes.

Amiens cathedral: this masterpiece of medieval architecture took more than 200 years to complete in its full glory, but it was conceived in the XIIIth century, and is generally regarded as one of the finest examples of the high Gothic style of that period.





The province of Champagne was once the eastern borderland of France. It is a country of broad plains that form a segment of the circle which is the Paris Basin; plains that have lain open alike to successive invaders from the east and to the merchants of the Middle Ages, crossing them north and south on their way to and from the great medieval fairs of Champagne.

The region lies across three of the geological belts which encircle the Basin of the Seine. On its eastern, or upstream, side is a belt of green-sand and gault clay, an area in which there are large numbers of small shallow lakes and extensive blocks of forest. Across this landscape stretch the valleys of the eastern rivers, from the Yonne to the Aisne, fertile valleys lined with rows of poplars through which the rivers wind sluggishly. This is the *Champagne Humide*. Its eastern margin, in turn, is guarded by the Argonne, scene of so many of the conflicts that have taken place on the soil of eastern France. Like the *Champagne Humide*, the Argonne is a region of impermeable soils: its peculiarly sticky clays are covered by forests that have, time and again, proved a good defensive obstacle.

The heart of the province lies in a broad belt that stretches from the Senonais to the foot of the Ardennes,....the *Champagne Pouilleuse*, or Dry Champagne. This is a region where surface water is absent, except in a few valleys which possess spring-lines, marked by thin ribbons of settlement. Otherwise, this is a landscape of gentle undulations where, beneath a pale sky, the chalky tufa of the surface shows white and arid; a landscape of sterility, marked by plantations of stunted conifers introduced in the nineteenth century; a landscape which waited upon the coming of fertilisers in the twentieth century to give it value and permit the cultivation of great quantities of wheat. The sparsely scattered buildings, like those of the Argonne, are half-timbered with clay filling.

This dreary landscape extends 80 miles northwards from the Yonne, in a belt 30 miles wide. It terminates on the west at the foot of the scarp face which marks the edge of the innermost "saucer" of the Paris Basin—the *falaise* of the Ilc-de-France, the scalloped edge of the marl-covered, forested plateau-lands that compose the Pays d'Othe, eastern Brie and the Montagne de Reims (which rises south of the city to over 900 feet). It is precisely here, on this mainly east-facing plateau edge (which, in consequence of its orientation, is all too often affected by frost), that we find the vineyards to which (Champagne owes the world renown it has acquired in the past three centuries.

The regional capital of Champagne is Reims, an ecclesiastical centre as long ago as Gallo-Roman times. Coronation place of French kings, its cathedral, like the city, was destroyed in the First World War, and afterwards rebuilt. Its towers look down upon the vineyards beyond the city; vineyards which fill vat upon vat with the world-famous wine of the locality. But Reims has other industries too—long-standing textile manufactures, to which have been added more recently the production of motor vehicles, domestic appliances, linoleum and electrical equipment.

The other urban centres of Champagne possess a wide variety of industries: Chalons-sur-Marne, in the heart of the *Champagne Pouilleuse*, is a rapidly growing manufacturing town, while its counterpart on the Seine—Troyes—is notable not only because it has retained its medieval streets and Gothic architecture, but also because, with its satellites, it is the headquarters of the French hosiery industry. Further upstream on the Marne—which is the river of Champagne *par excellence*—there is a small number of

metallurgical industries of very ancient origin, grouped round the town of Sainl-Dizier, and in neighbouring villages. The Maine rises on the Plateau of Langres, a limestone feattin-rising to 1,500 feet above sea-level, dry, wild and given over to thickets and rough grazing, its harsh climate hampering the cultivator. Here Champagne, Burgundy and Lorraine meet: here streams rise that will ultimately reach the North Sea, the Channel and the Mediterranean. One of these, the Marne, provides the principal line of passage between the basins of the Rhine and the Seine. Another is the Mcusc, in its upper reaches a slender, slow-moving stream, which belongs partly to Champagne and partly to

The "Falaise de Champagne" is a shell in the Paris Basin; its eastern face, covered with famous vineyards, drops from the Brie Plateau towards the dreary expanses of the "Champagne Pouilleuse".



64

Lorraine, separating the two regions from each other where the long line of its valley runs north, almost devoid of tributaries, towards Civet and Belgium. The valley of the Meuse, with its rich pastures, has first to cut through forested plateau-lands, their edges clear-cut and scalloped by erosions, where Domrcmy, the village of Joan-of-Arc, stands above the river. It then skirts the slopes of Barrois, the first part of Lorraine to be incorporated into France. As the Meuse Hows on northwards it runs parallel to the limestone ridges on its eastern bank—the *Cotes de Meuse*—which were dominated, in 1916, by the forts of Verdun where a multitude of heroic defenders perished. From those ridges, in turn, one looks east over the

Provins, scene of the great medieval fairs of Champagne; today a forgotten little town, still ringed by ramparts and dominated by its keep, at the heart of the rich cornlands of Brie.



clay plains of the Woevre, with their heavy but fertile soils, their forests, and their numerous small lakes glittering below—a sad, lonely, deserted land.

On the right bank the Meuse is joined by its tributary the Chiers, coming down from the Basin of Lorraine, with its ores and steel-works, and followed by the "coal and iron line"—the vital rail link between the ore of the east and the coal of the Nord. The valley of the Meuse becomes industrial, runs past the small textile and metal-working town of Sedan, that doubly tragic spot with its memories of disaster in 1870 and again in 1940. The Meuse has seen so much of war. Serpentine now, it passes through the double town of Mezieres-

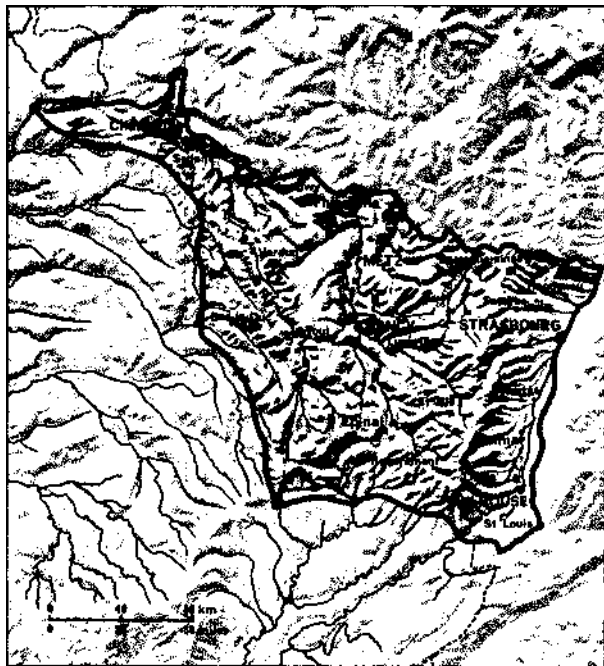
The smiling valley of the river Marne, as it meanders through a gentle landscape of orchard-covered chalk hills on its way from the east of France towards Paris.



Charleville, an ancient fortress town, today busy with its iron-works and railway junction. Below this point the valley, narrow now and confined by the high, steep grey masses of the Ardennes, becomes a veritable corridor of industry. Beside the river, its meanders coiled about them, lie a succession of small but nourishing industrial towns making foundry products, steel sheeting, screws, ironmongery, stoves—a whole range of domestic and industrial goods—while above them the steep, wooded slopes of the Ardennes look down upon the valley, and conceal in the depths of their forests an abundance of game for the hunter. And then there is Givet, and the Belgian frontier.

The Meuse winds through the forested hills of the Ardennes, past busy little villages (shown here, Montherme), specialising in the manufacture of nails, household ironmongery, and similar branches of small metalwork.





Population of principal towns (1968)

Strasbourg	334 700
Nancy	257 800
Mulhouse	199 000
Metz	166 400
Thionville	136 500
Hagondange	*134 200
Forbach	*85 400
Colmar	75 500
Belfort	71 600

* mining conurbation



The East

Lorraine

East of Commercy, on the Meuse, there is a break in the line of the *Coles de Meuse*, a gap that represents a former course of the River Moselle in Quaternary times, before the upper waters of that river were captured by what was to become the Lower Moselle of today. Through this gap, the way lies open into Lorraine.

At Toul, then, we enter the Basin of the Moselle, which is Lorraine's own river, and stand on the threshold of the French Rhineland, that "far eastern" zone of France whose character is so distinctive. It is a country of industrious people, artisans and town-dwellers for the most part, since the population is two-thirds urban and even the rural element is made up not of peasants on isolated farms but of villagers accustomed to life in a close community. It is a country, too, where two-thirds of the villages contain or adjoin industrial plants.

In its geological setting, Lorraine lies across the outermost, and oldest, of the concentric formations that ring the Paris Basin. This situation gives it two geological subdivisions: (1) the east and centre, and (2) the west. The first of these consists of a gently undulating and slightly broken plateau, surmounted by an occasional hillock, and based upon either Triassic formations—which are sandstones and sticky clays—or upon Liassic marls. The climate is harsh and the soils, particularly on the marls, stiff and difficult to work. Woods and small lakes are scattered across the plateau, but despite the physical conditions this has been above all a region of "open field" farming. Today, the arable is being increasingly put down to grass, either permanent or temporary.

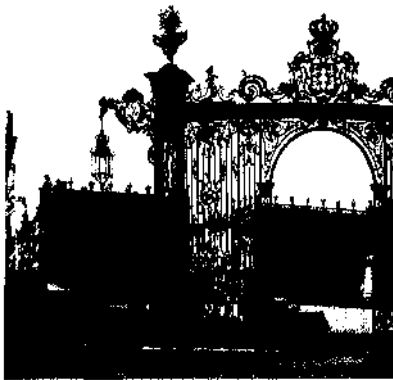
In western Lorraine, by contrast, the relief is more clearly defined, and consists of level limestone surfaces interrupted by relict hills (*butes temoins*). These are poor, arid lands, often brush-covered wastes on the dip-slope and forested on the summit levels. But on the sheltered, cast-facing lower slopes cultivation has taken hold, and there are orchards (especially plum trees) and fruit bushes. And the

villages—small, compact, functional, unlovely; no concession has been made to mere decorativeness in these stone-built houses, where the inhabitants, their livestock and their grain are all lodged beneath the same low, tiled roof.

Very different, however, is the impact made by Lorraine's city of Nancy, the elegant ducal capital of the eighteenth century. Today, Nancy's old-world centre is ringed with modern industrial suburbs. Metal-working and brewing predominate on the western side; upstream, on the east, are chemical- and salt-works and glassware factories.

The northern part of Lorraine was annexed by Germany in 1871, and restored to France in 1918. Here stands Metz, an old ecclesiastical centre which today administers one of the greatest industrial concentrations in France. Its basis is found in the twofold mineral wealth of the region—west of the Moselle, iron ore; east of the river, and astride the German frontier, coal.

The iron ores of Lorraine are the most important deposits in Europe. They lie along the *Coirs de Moselle*, and extend up the tributary valleys and beneath the forests that cover much of the area between Longwy, Briey and Thionville. Their northern tip lies in Luxembourg. It is thanks to their presence that the massive complex of Lorraine's blast-furnaces and steel-mills has come into existence—a complex which, in the past few years, has acquired a new outlet, via the canalised Lower Moselle, to the Rhine. The centre of the coalfield on the French side of the frontier is Forbach. France possesses—since 1918—on the western end of the Saar field, and production is rising steadily. Like the iron ore, the coal is found in an area which is largely forested, but dotted with mines and with chemical plants processing by-products. The whole *departement* of Moselle, in fact, is coal and iron country, and is also distinguished by the fact that, in recent years, it has had the highest birth-rate in France.



Top left: The orchard slopes and water-meadows of the Moselle towards Pont-a-Mousson. In the distance, the Cotes do Moselle form the first of the steps in the Paris Basin.

Above: The workaday villages of Lorraine, where a single low, shuttered building may act as house, barn and stable all in one.

Left: Nancy: the Place Stanislas gives an aristocratic style to the capital of a modern industrial chain strung out along the rivers Meurthe and Moselle.

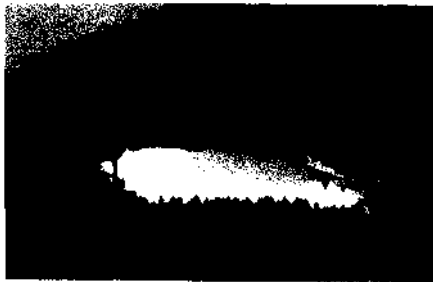


Above: Metz, on the Moselle, long an independent bishopric and a kfly-point in Franco-German wars, is today the administrative centre of a great ironworking



Top right: The importance of open-cast iron mines such as these at Longwy in northern Lorraine is now threatened by competition from foreign ores with less phosphorus content.

Right: The Vosges: majestic fir and beech forests cradle one of many deep glacial lakes, on the peaks above are the pastures of the "Hautes Chaumes".



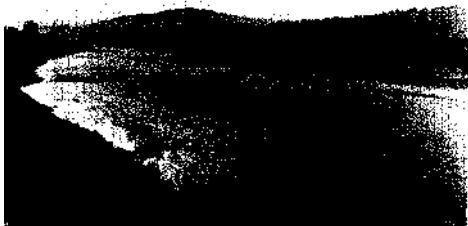
The Vosges and Alsace

The Hercynian massif forming the Vosges Mountains is one pillar of an arch which has collapsed: the other, identical pillar is to be found in the Black Forest of Germany, beyond the Rhine. This upland mass lies between France's two eastern provinces, Lorraine and Alsace, and by separating them has permitted them to develop quite contrasting characters.

The mountains themselves have been worn by long erosion into solid, rather squat outlines. In the south, they arc predominantly granitic, rounded into domes (the Ballons), and rising to form the highest points in the northern half of France (at about 4,500 feet). The northern part of the massif, by contrast, has a covering mainly of red Bunter sandstone. Here the relief is more open and the hills are more scattered, but they form occasional clusters in which the sandstone shows a scarp face towards the north. These hills drop away northwards, like breakers dying on a beach, with altitudes diminishing to 1,500 feet where the Hardt reaches to the German frontier.

From one end to the other the Vosges are mantled in a cover of splendid mixed forest of beech and fir. In all, more than a million acres are forested, and the cover is **virtually** continuous, except for some ill-drained valley bottoms where there are grassy pastures, and some of the summits where mountain grasslands are to be found. Despite this uniformity of vegetation, however, the two sides of the Vosges are quite dissimilar in other ways: the western slope to the Moselle is long and gentle; that on the east to the Rhine (or, more properly, to its tributary the Ill) is short and abrupt. Climatically there is a marked contrast. This "blue horizon of the Vosges" acts as a screen athwart the westerly winds, a barrier to the passage of

Strasbourg: this ancient French outpost on the Rhine, and point of contact between the Latin and Teutonic cultures, is the seat of the Council of Europe, and in its style of administration and general atmosphere conveys the impression that the role of federal capital, rather than provincial town, would not be difficult for it to maintain.



The Rhine above Strasbourg, from the French side: the Grand Canal d'Alsace now takes most of the stream, and these almost unnavigable lapids contrast sharply with the crowded river below the city.

moisture, which is consequently deposited out of grey skies upon Lorraine, often at the same time that the eastern slope is enjoying unbroken sunshine.

A simple forest economy has proved long since to be inadequate to support the population of the Vosges, and for many generations it was supplemented, at the family level, by weaving. Somewhat more than a century ago, when the Industrial Revolution reached these provinces, this weaving became the basis of an important cotton textile industry, which spread out of the towns, up the adjacent valleys where every village had its mill. But just as in Lancashire, the area is under persistent economic pressure to diversify or convert its industries.

From the crest-line of the Vosges, the eye roams over foothills where ruined castles stand—the old "burgs" of the Rhineland—and on down to the Plain of Alsace, a veritable Promised Land in prospect with its fields, its vineyards and orchards, its multitude of villages and homes. After the rather austere introversion of Lorraine, the picturesque and colourful aspect of Alsace is a reminder that one is entering Central Europe, that Alsace lies open to the Continent. West of the Vosges, are the squat stone houses, their roofs low and their shutters often closed; east of the Vosges, an altogether different architecture—houses whose many windows are decked with gera-



The market-square and fountain at Kayserberg, a small town of Alsace; typical timber-framed houses, with projecting storeys carried on corbels and the characteristic corner-turrets known as "Erker".

niums, welcoming houses, with timbered frames and decorated corbels, with whitewashed walls and high gables, tiled roofs and assorted chimneys. The fountain in the market-place, the gaily painted signboard, the traditional stork's nest on the chimney-top—these are the things for which Alsace is known, the visible signs of a wealth and a largeness of living here in the Plain of the Rhine.

Not that the soils of Alsace are uniformly fertile or productive—far from it. They are, in fact, thoroughly diverse. Along the foot of the Vosges, below the pine woods of the mountain edge, and where the river valleys open into the plain, the rim of the lowland is covered with a thick mantle of loess, a soil which indeed favours cultivation. A line of settlements runs amidst the vineyards, villages where the vine-dressers live, and little towns still surrounded by walls and gates. There are cherry orchards and plum trees too, and between them stretch the open fields, divided into a million liny parcels, each one cultivated as one cultivates a garden.

But further east, between the Rhine and the almost parallel course of the Ill (a river which gave its name to Alsace), there lies a section of the plain which extends from southern Alsace northwards beyond Strasbourg. It is intersected by the valleys of Rhine tributaries but is in essence a series of alternating parallel belts, separated by networks of ditches and streams, and consisting on the one hand of

fertile river terraces, carrying lines of settlements, and on the other of beds of pebbly or sandy deposits, entirely infertile and supporting merely a dense undergrowth generally known as *hart*. In the north of Alsace, this brushwood is replaced by the vast pine forests of Haguenau. Between these alternating belts one finds in places a third type—marshy zones known locally as *ried*. And where the ground is cultivated, minute family holdings are the rule.

Everywhere in Alsace, the rose-red sandstone of the buildings—whether Roman, medieval or eighteenth-century—indicates that we are in the Rhineland. Beneath the shadow of the loftiest of all these buildings, the great cathedral of Strasbourg, lies a city which has far more the appearance of a capital than of a provincial town; a city which may, indeed, one day be the capital of a united Western Europe. Its river-port is the second most important in France. Its administrative and cultural functions carry its influence to the limits of the province and beyond. Its industries are numerous and diverse.

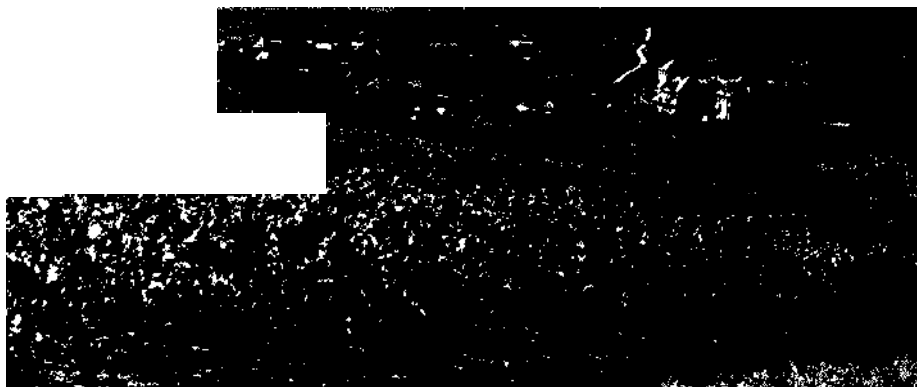
Colmar, an old and charming town, is the administrative centre of Upper Alsace, where industrialisation is proceeding rapidly. In neighbouring Mulhouse, however, the industrial tradition is already a long and notable one. Mulhouse was formerly a free city linked with the Swiss Confederation and, thanks to the enterprise of its Calvinist business class, it became a veritable hive of industrial activity, a hive whose "swarms" produced an effect that was felt all through the adjacent Vosges and up the valley of the Thur, reaching to such satellites as Guebwiller and Thann. The area has developed particularly the textile and metallurgical industries, and also profits from important potash deposits nearby.

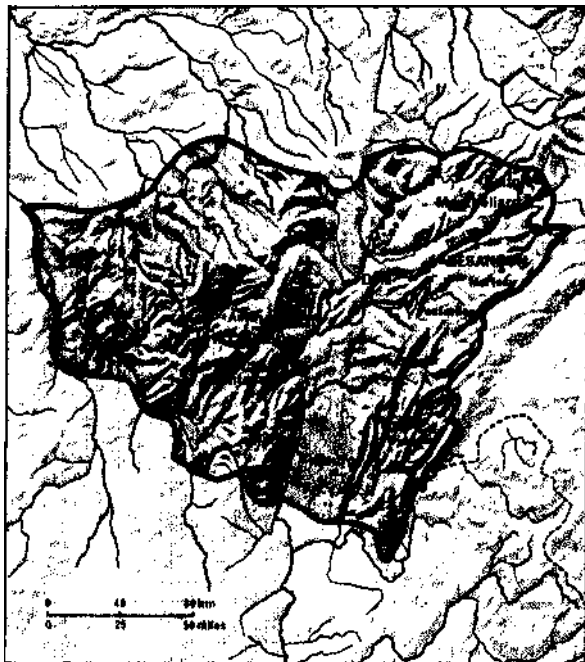
Today, the distribution of industry in Alsace is undergoing a change. The basic reason is that whereas formerly the Rhine was a liability rather than an asset to the province, flowing as it did amidst its waterlogged thickets and sandbars in a kind of splendid isolation, today it is a highway for commerce. With its partner or deputy, the *Grand Canal d'Alsace*, it carries a constant stream of international traffic. As a consequence, more and more industries are leaving the mountains, or moving from what the Alsatians like to call "interior France"—beyond the Vosges—to new sites near the river. Along the Rhine, the Swiss city of Basle extends across the border to the French suburb of Saint-Louis, as does Basile's chemical industry, which is steadily increasing in importance in this corner of Alsace.



Above: Country houses in Alsace, substantial, picturesque and cheerful; their long roofs, timber frames and pented gables are typically Rhenish.

Right: Turckheim stands at the opening of a valley in the Vosges; like all the small towns of Alsace, it makes its living partly from industry and partly from agriculture—note the factory buildings sheltering beneath the vine-covered slopes.





Population of principal towns (1968)

Dijon	184 000
Besancon	116 200
Montbeliard	114 700
Chalon-sur-Saone	60 900
Nevers	54 700

Burgundy and the Upper Rhine

The Belfort Gap forms a kind of ante-room where a variety of influences meet, before entering the corridor between Alsace and the centre of France. This historic route, which has seen the passing of so many armies, leads through an area whose population is to a large extent Alsatian.

When Germany annexed Alsace in 1871, the Belfort district was left in French hands. In the years that followed, it developed a cotton textile industry which was, in effect, a branch of that around Mulhouse, then in Germany. Today, the difficulties common to all these old textile areas have struck at Belfort also, and strenuous efforts have been made to diversify by introducing electrical engineering industries.

North of Belfort, the south-western slopes of the Vosges, drained by the Saone and its tributaries, are equally an area to which the textile and precision metallurgy industries of Alsace have spread; the manufacturing towns stand amidst a countryside where pasture predominates and butter production is an important activity. Much the largest industrial centre of the region, however, is the town at the angle of the River Doubs, Montbéliard. This old town, predominantly Lutheran in sympathy, is rapidly increasing in industrial importance. Besides its numerous other industries, Montbéliard's economy is dominated by the presence of one of France's three largest motor-vehicle manufacturers—Peugeot—which employs 15,000 workers drawn from a wide rural hinterland.

The unifying force in this region of the east is supplied by the broad curving trough of the Saone plains, a line carried on, south of Lyons, by the narrowing valley of the Rhone. On the west side, this lowland is bounded successively by the hills of the *Cote d'Or*, Maconnais, Beaujolais, Lyonnais and the fringe of the Cevennes; on the east rise the Jura, and then the Prealpes.

It is this lowland of the Saone, as far south as the approaches to Lyons, which constitutes Burgundy, a region divided by the same River Saone into two historic provinces of France, for long separate

and distinct from each other. On the right bank lies Burgundy proper—the duchy of Burgundy—transit zone between the Paris Basin and the Mediterranean since time immemorial, a political unit based on a geographical unity. It has been continuously French in its loyalties, save for a brief, bold secession in the fifteenth century, and played a vital role, through its possession of Cluny and Oiteaux, in the spread of monasticism in the Middle Ages. On the left bank, by contrast, lies the county of Burgundy, the Franche-Comte, historically a French-speaking part of the Holy Roman Empire, which became French territory (see p. 18, map no. 4 and p. 19) only in the seventeenth century.

Franche-Comte

Franche-Comte is a region where tiny, stone-built villages crowd round church towers with onion-shaped roofs. Its river is the Doubs which, emerging from the northern Jura, virtually encircles the mountains by reversing its direction in a sharp elbow bend near Montbéliard. In its upper course, the Doubs forms the boundary with Switzerland for a part of its length. Below the elbow, it is very deeply incised as it cuts through the fringe of the Jura, to emerge at length in the Saone Plain.

Elevated and folded by the mountain-building forces of the Alpine uplift in Tertiary times, the Jura's crescent of limestone stretches in a series of parallel bands overlooking the Saone lowlands for a distance of 150 miles. But there are certain local differences between the northern and southern ends. The south possesses the highest parts of the chain (up to 5,500 feet) and its crags and turrets face across the Swiss plateau towards the Alpine snows. The southern end is also deeply dissected by numerous valleys, many of which contain lakes of glacial origin, and its vegetation cover suggests—as does its climate—the proximity of Mediterranean France: unlike that of the northern Jura, it is bushy rather than forestal in character. Further north, in the centre of the chain, there is a contrast between



Valserino, in the High Jura: a valley of pasturelands and isolated farmsteads.



Baumo-les-Messieurs in the Jura; note the characteristic courses of stratified rocks.



Morez, one of the small towns in the High Jura which manufacture clocks and optical goods.

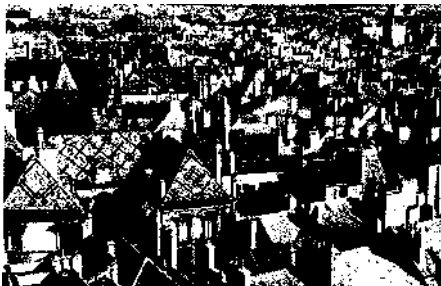
the two Hanks of the mountains. On the Swiss side, the slope is steep and abrupt. On the French side, it rises in steps or tiers to form a series of limestone tablelands, their edges falling away into smaller ridges eroded by cirques, cut up by valleys like the combes of the English West Country. These tablelands are cut in turn by river gaps, and some of these rivers disappear underground for long distances, in the characteristic manner of streams in limestone topography.

The northern end of the chain has a much more severe climate than the southern, with heavy snowfalls in winter. The vegetation cover is one of fir forest and Alpine meadow reaching right to the summits. At higher elevations, the houses have to be specially reinforced to withstand the storms. As for its economy, this is a region of grass and livestock where cheese is king. Such industry as exists is the product of the mountain winters, when outdoor activity is impossible; it takes the form of toy-making and wood-working, or the manufacture of optical goods. Around Oyonnax, plastics replace wood as the basic material used. Dole, on the edge of the vast Forest of Chaux, has the Solvay soda-works and produces a

number of chemicals. Finally Besancon, an old university town with a legacy of seventeenth-century buildings, situated on one of the innumerable loops of the Middle Doubs, is the centre of the French watch-making industry and specialises in all kinds of precision engineering. It is undergoing a rapid industrial expansion.

Burgundy

Where the Rivers Saone and Doubs join, the lowlands of Burgundy arc some 50 miles wide. This broad plain has replaced a lake which occupied the area in Tertiary times, and which was gradually filled up by a variety of sands, pebbles, detritus and recent alluvia—a process which is still going on. Because of the flood-threat, the settlements stand back on higher ground, and here one has an impression of monotony—of endless flat surfaces, cultivated and rich, supporting a mixed agriculture. In the Bresse region, to the east, this impression of prosperity becomes stronger where the humnrocky, alluvial farmlands surround comfortable hamlets and picturesque farmsteads built of rammed clay; the region is famous for its poultry. Its



The high roofs and chimneys of Dijon, the old Burgundian capital, which is rapidly absorbing the surrounding rural population and turning into an industrial centre.

main agricultural market-town is Bourg, whose activities have now enlarged to include branches of the electrical engineering industries centred in Lyons, further south. This is a region which stands in marked contrast to the area immediately to the south of it, Dombes, the present surface of which is a product of glacial outwash, strewn with small lakes and ponds, full offish. Despite efforts to improve the drainage, it remains a much less fertile region than Bresse.

The Saone is a calm, slow river which occupies the centre of its plain as far south as the point where it is joined by the much more impetuous Doubs. From this point onwards it is carried over to the western edge of the plain, and it is here that we find the only two significant towns on its banks: Chalon and Macon. Chalon is a manufacturing town with electrical and mechanical industries: the interests of Macon are much more closely connected with the farming of its neighbourhood.

But the most important town in Burgundy, the one which acted as capital of the Duchy, is not on the Saone at all. It stands at the point where the main route north to the Paris Basin runs between the high, barren Plateau of Langres on one side and the hills of fertile Auxois

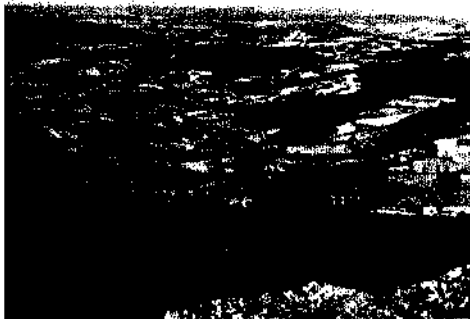


The great vineyards of the south-east facing slopes of the Cote d'Or, Maconnaise and Beaujolais in Burgundy, source of some of the world's most celebrated

on the other. This is Dijon, with its steep brown roofs and its legacy from the days of its glory in the fifteenth century. Today, Dijon's importance takes other forms, but important it remains—as a meeting-point of road and rail routes particularly, and as a growing industrial centre attracting a number of new industries. With this growth, however, there has gone hand in hand the decline of Dijon's hinterland, the poor, stony, brush-covered hills with their deep marl-floored valleys being drained of their population to serve, the factories and services of the city.

But the scene changes when we move south from Dijon. The hillsides that slope down to the Saone arc known as the *Cote d'Or*; they form a long, narrow, sunny rim to the plain. It is here that we find the great wealth of Burgundy. Here, among the vineyards, in well-built stone houses grouped in villages that almost have the character of towns, live the vine-dressers who have given Burgundy its vintage wines. Here are the slopes of Beaujolais; here Beaunc, with its famous *Hospices*, acts as the marketing centre.

Behind this veritable screen of vines the country to the westward swiftly changes in character. Parallel with the Saone there are



series of ridges projecting north and north-east from the main body of the Massif Central. In part granitic and in part limestone, they increase in elevation towards the south, adjoining the Massif, and reach over 3,000 feet in the star-shaped cluster of the mountains of Beaufortais. These hills contain deposits of refractory clays; they also contain a number of small coal basins, such as those of Autun, Epinac and Blanzey-Montceau. It was this last field which, in 1782, gave rise to the growth of le Creusot, a town given over entirely to iron-working. During the Industrial Revolution of the coal and steam age, le Creusot emerged as the leading producer of machinery in France. Its industries remain active to the present time.

Close by is the region of Charolais, its close-set pastures sloping down towards the Loire. Like its companion region to the north, Bazois, it is noted for its large white cattle, which supply the best beef in France. Three or four small towns manufacturing metal goods and earthenware are situated on the Loire side of the hills.

Downstream, the Loire enters Nivernais, a small region thickly wooded and linked, historically, with Burgundy, although from a geographical point of view it is difficult to classify in relation to its surroundings: it belongs both to the Loire Basin and to eastern France; both to the Massif Central by way of the Allier valley, and to the Paris Basin by way of the Yonne. The capital of the province, Nevers, stands on the Loire near to its junction with the Allier.

Between Nivernais and Burgundy rises the great mass of Morvan, a tilted granite block that forms a detached bastion of the Massif Central. Its southern side is steep; its northern side presents a gentler, more rounded outline. It rises to almost 3,000 feet, a region of heavy rainfall, pasture and wild beech and oak woods. The rough stone houses with their thatched roofs have offered little incentive to their occupants to remain within the region, and from these hills of Morvan a steady stream of emigrants has been flowing for a century past towards Paris and the opportunities it affords.

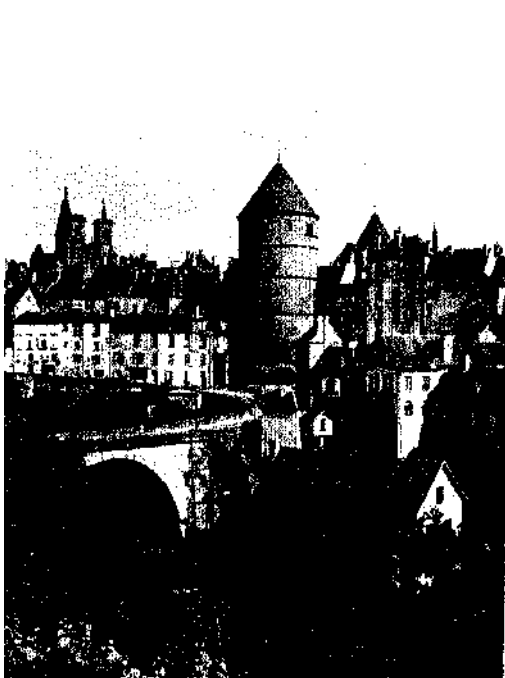


Far left: The rolling pasturelands of Charolais and Nivernais, where the great white cattle graze to become the pride of French beef farming.

Left: Morvan, a northern extension of the Massif Central, thrusts between to Paris Basin and the Burgundian plateaux; shown here, Mont Beuvray.

Above: The muniment room at Fontenay, one of the great Cistercian abbeys of Burgundy—the province where the order was founded.

Right: Medieval towers and XVIIIth century houses at Semur, a peaceful, picturesque little market-town in the fertile countryside of Auxois, in Burgundy.





Top left: The flat, rich countryside of Bresse, with the river Saone.

Above: A typical farmyard in Bresse, with some of the region's famous poultry.

Left: A panoramic view of Lyons, the second city of France.

The Rhone and Lyonnais

The traveller who sets out to follow the Saone southwards from Dijon will notice, probably as soon as he passes Chalon, the first indications that he is entering the sphere of Mediterranean influence the Midi. The natural vegetation shows subtle changes and the roofs of the houses are lower. It is at this point of transition that, leaving behind him Bresse and Beaujolais, he enters Lyonnais and plunges into the concentration of dynamic urban and industrial activity which is currently known as the "Rhone-Alps" region. The still-tranquil Saone leaves its broad plain at the point where the latter narrows briefly between two converging plateaux, and, passing this

construction, finds itself immediately swallowed up in the powerful flow of the Rhone, pouring down from the Alps and Jura. It is at this point, this impressive crossroads of water and land routes, that we find the city of Lyons.

Lyons was the capital of Roman Gaul. Today, thanks to its administrative and cultural importance, and to the volume of its commerce, it is the centre of the second largest conurbation in France. It is not a city notable for its elegance or grace: its characteristic structures are tall apartment blocks, severe in style and bare of decoration, and its skies are often grey and misty. But this great tripartite city has a commercial importance that dates back to the Middle Ages when the fairs of Lyons—re-established in modern times—helped to make it the recognised centre of the silk industry in France and of commerce with Italy and the East.

With the passage of time, and with a native inventiveness for which its inhabitants are noted, Lyons has succeeded in diversifying its interests, not only into cotton, wool and artificial fibres as well as silk, but also into chemicals and machinery. The textile plants are to be found on the Monts du Lyonnais, or as far away as the valley of the Isere, or downstream at Vicnne. Downstream, too, are the chemical plants, while motor vehicles are built in the eastern suburbs, electrical equipment in the north-east, and machinery at Villefranche, not to speak of glassware, foodstuffs and photographic materials.

Upstream from Lyons the Rhone, temporarily calmed by its passage through the Lake of Geneva, is promptly goaded back into furious life by the tumbling waters of the Arve, coming down from Savoy. Thus reinforced, it plunges into the deep gorge at the southern end of the Jura where it has now been trapped behind the dam at Genissiat, first of the great barrages of south-eastern France. Escaping once again it makes a sharp bend southward, with the grain of the Jura, and thereafter passes no settlement of importance until it reaches Lyons.

Below the city the Rhone is navigable. It flows south past a line of industrial suburbs, following now the orientation of the Saône which has joined it, and flowing beneath the outermost spurs of the Cevennes which enclose its valley on the west. Where, however, the Rhone is joined a short distance south of Lyons by its tributary the Gier, the line of industrial settlements diverges from the main valley to follow the tributary. Thus the Gier valley forms an industrial link

between Lyons and Saint-Etienne. The latter, a town of some 200,000 inhabitants, confined by the surrounding Monts du Fore/ to a long and narrow site orientated north-south, is an overcrowded product of the Industrial Revolution: it owes both its existence and also its sombre, unprepossessing appearance to its coal-mines—mines of which many have now been worked out and closed. What Lyons is to the Rhone, Saint-Etienne is to the Loire—but it is a second Lyons only in terms of its manufacturing. Among its industries—and it is a town which has weathered a number of industrial crises—are the production of ribbons, hats, metal goods (arms, hardware, screws, machine tools) and machinery. Its outliars are found up the headstreams of the Loire as far away as the Plateau of Vclay, and down-valley (where the oval Plain of Fore/, opens out to contain a number of small manufacturing towns; as far as Roanne with its cotton-spinning mills.

Onwards and southwards flows the Rhone, past vineyards and orchards and cement-works, its fertile valley followed by the main railway line from Paris to Marseille, paralleled by *Route Rationale 7*, the most-travelled main road in France. On one bank lies Dauphinu', with here and there a distant glimpse of the Prcalpes. On the other lie Languedoc and the Cevennes, their fringing foothills crowned with the massive shapes of old strongholds. Here is the mountainous *departement* of Ardeche, with its torrents and its chestnut trees, a region of rural silk manufacturing.

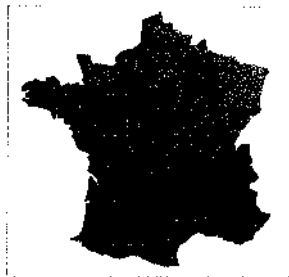
On the east bank of the Rhone lie Vicnne and Valence. The first of these is an old Roman town with a woollen industry. Southwards from Vicnne, and beyond a scattering of new industrial plants mostly concerned with chemicals and pharmaceuticals, the traveller reaches, at Valence, the most southerly of all the industrial towns which he has encountered, at irregular intervals, along his way from northern France—the furthest outlier of the industrial north. It is a town whose industries are exceedingly varied—precision machinery, electrical insulators, jewellery—and which is expanding rapidly. In the adjoining valley of the I sere, which flows into the Rhone just above Valence and which is noted for its walnut trees, stands the shoe-manufacturing town of Romans.

The plains of Lower Dauphinc on this east side of the Rhone are made up of clays and pebble beds swept down from the Alps. They form a kind of *glacis*, beyond which rise the Precipes of Vercors and the splendid forested Jurassic massif of the Grand-Chartrusc.



Population of principal towns (1968)

Lyons	1 083 000
Grenoble	332 400
St. Etienne	331 400
Valence	92 100
Anncy	81 500
Roanne	77 900
Chambery	75 500



The Alps

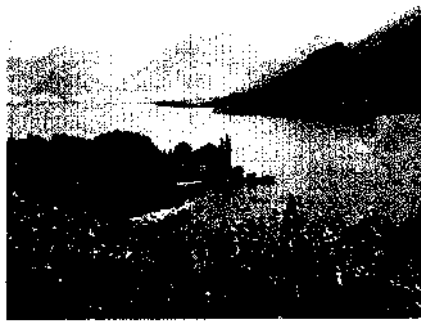
Throughout the region of the Middle Rhone which we have been considering, one can seldom remain unconscious for long of the silhouette that forms its horizon and encloses it on the east—the line of the Alps. Viewed from a distance, the Alps present a solid wall sheltering the three ancient provinces of Savoy, Dauphine and Provence. But in fact they afford a number of passes over to Italy, and are criss-crossed by valleys, broad and easily traversed, each of which forms the nucleus of a small, individual *pays* so that neither in scenery nor in climate do they form a single unit.

Savoy is the most northerly of the three provinces. Its northern border is the shore of the Lake of Geneva, and it possesses a number of other beautiful lakes, like those of Annecy and Le Bourget. It extends southwards behind its screen of the Prealpes, the forested limestone mountains divided by river valleys into a series of massifs reaching 7,000 to 8,000 feet, such as the Genevois and the Bauges. Behind these rise the superb crests of the main crystalline Alps, with their gleaming snowfields and their glaciers flanking the summits of Mont Blanc (Europe's highest mountain) and the Vanoise Massif. Here in Savoy precipitation is relatively plentiful, and this is reflected in a vegetation of lush valley pastures, with vineyards on the lower slopes above them; of abundant fruit trees and sweet chestnuts where Chablais slopes down to the Lake of Geneva; of coniferous forests mantling the upper slopes, and giving way in turn to the sweet grasses of the Alpine pastures that stretch up to the edge of the eternal snows. The traditional economy of the region is based upon cattle-raising by a seasonal migration between the valley and the high pastures, but this is gradually giving way to a system based on stall-cattle. The solid square houses in the valley, with their high roofs of shingles, give way at higher elevations to the characteristic chalet style—a wooden structure with balcony and huge granary, built on a lower storey of stone which houses the livestock.

South of Savoy lies Dauphinc. The Alps arc represented here by the Massifs of Belledonne and Pelvoux (the latter rising to over 12,000 feet), and the Prealpes by the limestones of Vercors; between them lie the valleys of the Drac and Romauch, tributaries of the Isere. Already we are conscious of a difference in climate and vegetation: the skies are brighter and the slopes above the valleys are more bare, rocky and broken on account of the diminishing precipitation. The Massifs of Champsaur and Devoluy in southern Dauphinc are particularly desolate. Yet even here there are areas of fine natural pasture, as, for example, on the Vercors, and in particular the main Isere valley (which lies at only 300 to 700 feet above sea-level) is favoured by both sun and rain and is strikingly fertile.

The Devoluy massif is traversed by the Ooi de la (Iroix-Haute, and south of the col the vegetation becomes increasingly sparse. Up in the Alps—which in this section are generally below 11,000 feet and do not support glaciers—there are forests of larch and pine, and pastures formerly occupied each summer by flocks of sheep. But the slopes of the Durance Basin, and the celebrated gorges of its tributary the Verdon and other rivers of the southern limestone mountains, all too often present a spectacle of rocky wastes with the appearance of fallen masonry, eroded by wind and lashed by sudden, violent rains. The Durance itself can swell at times to an immense torrent, yet for most of the year it is an insignificant stream flowing over a vast spread of shingle.

As we approach the Mediterranean, however, we find that the aridity is relieved a little where some of the chains of the Prealpes project into the plains of Provence. Around them the lower slopes are carpeted with lavender. The Alps behind Nice, too, have a higher rainfall, and carry a thick cover of snow in winter. In almost every way, however, these arid southern Alps offer a striking contrast to the northern end of the line: almost a half of their surface is classified



as waste-land, compared with only one-seventh in Savoy, and they are marked by a steady drift of population out of the region, by contrast with the growing towns of Savoy. It remains to be seen whether this progressive depopulation can or will be checked by recent measures which offer new economic possibilities -measures such as widespread afforestation, and the construction of dams that have tamed the Durance, created lakes of scenic interest, and made available irrigation water to these arid basinlands.

As far as Savoy and Dauphine, at least, are concerned, the past century has witnessed a profound change in the rural life of the region. The old economy was based exclusively on pastoralism, but today this way of life is to be found only in a few remote communities in the high valleys—for example, in Devoluy and Qucyras. The first disruptive factor was the appearance in about 1850 of summer tourists, turning the villages into health resorts, travelling up to the mountain towns like Chamonix and Saint-Gervais, clustering along the lake shores at Evian and Annecy, or taking the waters at Aix-les-Bains. Then in the twentieth century came a new invasion—the winter tourist traffic, drawn to the highest settlements by the search for snow slopes. What had formerly been the "dead" season in the Alps became the liveliest season of all.

But there has been a third transforming influence upon the Alpine region's economy, quite different in character from the other two. This is the development of its hydro-electric potential. Its swift streams have been dammed, and the power generated has brought new life—industrial life—to the valleys, so that today there are

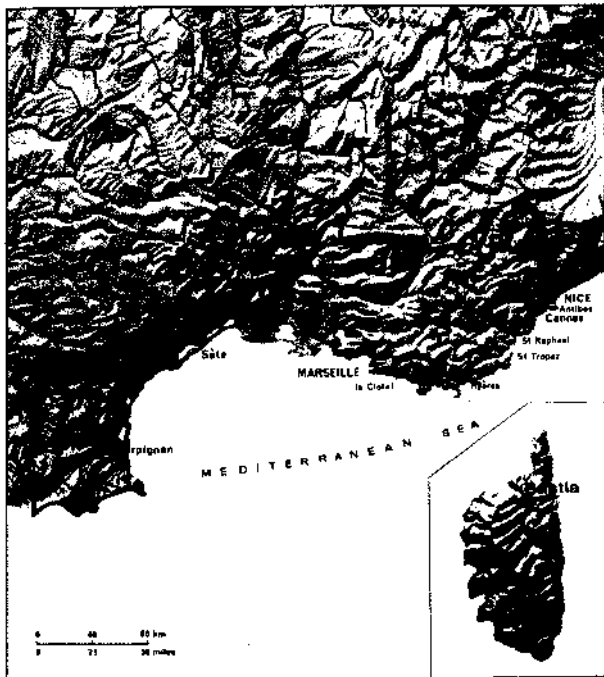
electro-chemical and metallurgical industries bringing new life to a region which, up to twenty years ago, had nothing to look forward to but a long process of stagnation.

There are two towns in the Prealpes zone which epitomise, by their striking growth, the changes wrought in the region within recent years, and the influence of attractive scenery and suitable sites upon the location of new industries and organisations. The first is Grenoble, which can fairly claim to be the most dynamic town in France. Situated on the Isère, at the point where it debouches from the broad Gresivaudan, it is a serious rival to Lyons, and is the real capital of the Alpine region. It is a town of tall buildings, technical schools which draw many foreign students, and research centres: it possesses a fine university and a long list of industries, among which the traditional combines with the most modern silks, synthetic fibres, paper-making, food products, glove-making, and especially the whole gamut of electrical goods and electronics.

The other town is Annecy, at the outlet of its lake, a town which seems destined for great things in the future. It is in the heart of Haute-Savoie, and possesses modern factories producing precision instruments and chemicals, as well as older-established creameries and cheese factories.

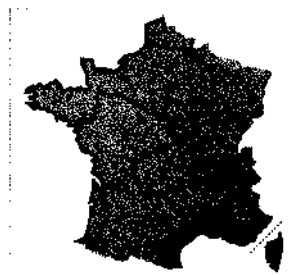
Elsewhere, the pace of development is less rapid, but is still well marked. Chambéry, the old capital of Savoy, is growing together with Aix-les-Bains: both have entered on a new lease of life. Away to the south lies Briançon, strategic fortress-town at the French foot of the Mont Cenis Pass.

Peasant farmers built the Savoyard chalets (top left), but now tourists are more important in the Alpine economy (top centre), and where there are no ski-slopes the mountains have been deserted (top right) for the towns—Grenoble (bottom left) is one of the most dynamic cities in France, and Annecy (bottom right) flourishes beside its lake.



Population of principal towns (1968)

Marseille	966 000
Nice	392 600
Toulon	340 000
Cannes	213 400
Montpellier	171 500
Avignon	139 100
Nîmes	124 900
Perpignan	106 600
Aix-en-Provence	89 600
Beziers	80 400
Sete	54 000
Ales	53 400
Bastia	51 000



Mediterranean France

Beyond Valence the traveller may feel the first chill blast of the Mistral, that cold and violent wind generated among the mountains of the Massif Central that all too often blasts the warm coastlands of the Mediterranean. Beyond Valence, too, the ear soon catches the first accents of that *laugue d'oc* which has given its name to a whole province here in the south.

Beyond Montelimar and the nuclear centre at Picrcrlattc, these impressions are intensified. The Rhone valley narrows at the passage of Donzere, where today the river is barred by two enormous dams, and then opens out again to form plains where the shiny leaves of the olives, the black windbreaks of cypress and the crystal clarity of the atmosphere all bespeak the nearness of the Mediterranean Sea. We have entered Provence and Languedoc, where the Latin culture of the Mediterranean lands secured its first foothold in France, and where it has left the largest number of relics behind it—temples, arenas, aqueducts. Out of the natural conditions of the Midi—infrequent, irregular rains, stifling summer heat and mild winters—there has grown a distinctive way of life. The Midi is extrovert, cheerful, carefree and not too hard-working.

Amidst the dry, sharply-etched hillsides of the south, the level areas suited to cultivation often appear no more than oases of irrigated land. Between the borders of Italy and the Spanish frontier, cultivated fields occupy less than one-seventh of the coastlands, while more than one-third of the area is classified as waste. Most of the natural vegetation is evergreen in character; in Provence it is composed mainly of pines, holm oaks and the scrub-like *maquis*. The heat of the summer sun burns up the grass and this is, in consequence, mainly an area of bush or tree cultivation rather than pasture farming. There are huge areas under vines and olives; there are almond trees and fruit orchards; there are early vegetables and market gardens and flowers, but no cereals and no livestock, apart from sheep in the Rhone delta which spend the summer in the Alps.

There is another distinctive feature of the Midi landscape. Apart from the *basilide* or *mas*, farms clustered round the Provençal market-towns, the countryside is largely deserted. For this is essentially a region of town-dwellers. The Mediterranean Frenchman may live in one of the coastal towns, or in a town-sized village among the vineyards of Languedoc, or in a valley settlement on the banks of the Rhone, but in any case he is likely to live in a house several storeys high and to prefer the enclosed urban community to the rural way of life. Nowhere else in France can one see so clearly the effect of the downhill movement of population from the mountain to the plain. Back in the hills, slopes that were terraced at the cost of infinite toil, and have been cultivated over the centuries, now lie abandoned, their supporting walls crumbling. And even within the old towns themselves, mostly perched on hilltop sites and fortified against Saracen attacks, one can see the same process at work: the oldest and highest quarters have been deserted in favour of new suburbs down on the plain. Only in the most recent times has a reverse tendency become apparent: the old houses, by now often in a ruined state, are being refurbished as holiday homes.

Provence

Provence is fortunate to possess, as a legacy from its past, a cluster of fascinating towns. Proud beside the Rhone stands Avignon, its fourteenth-century ramparts and "Palais des Papes" overlooking the river on its eastern bank. Avignon is the principal market for the fertile plains of Vaucluse, a veritable garden-land renowned for its early vegetables, and for its fruits, tomatoes and grapes which have replaced the mulberry and the madder of earlier times. Then there is Orange, with its Roman remains and the lofty summit of Mont Ventoux looking down upon it from 6,000 feet, and the ancient capital city of Arles, still redolent of Roman splendour.



Top left: The north face of Mont Veitoux (6,300 feet), an advanced spur of the Alpine chain.

Top centre: Flattened roofs of Roman tiles cluster on a hill in typical Mediterranean style at Puyrenas (Vaucluse).

Top right: The mistral from the north whips the rapid current of the Rhone as it passes the famous bridge and "Palais des Papes" at Avignon.

Left: The Camargue: bulls for the local corridas roam the marshy delta of the Rhone.

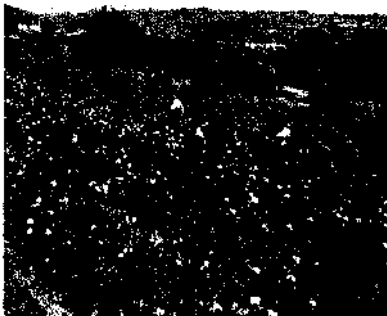


The quality of life in Provence is shaped by the Mediterranean sun. *Top left:* the popular game of *pétanque*, played in the dust of a village street. *Top centre:* the shady cloisters of Sonanque abbey. *Top right:* the ancient fort of Château d'If guards the entrance to the great port of Marseille, renowned since classical times for its teeming, cosmopolitan life. *Left:* the sun-split rocks of the 3,000 foot canyon of Verdon, the deepest of its kind in Europe. *Right:* St. Tropez/ was once a little fishing-village, but its climate and situation have recently helped it to become one of Europe's most famous and glamorous resorts.





The beach of la Croisotte at Cannes, *locus classicus* of the seaside holiday, with its blue, tideless sea, sunshine and palm trees, luxury hotels and general air of opulent ease and relaxation.



Gathering roses in the famous commercial flower gardens of Grasse, centre of the French perfume industry; banked against the hillside, the town enjoys a splendid view over the Provençal countryside and the sea.

Below Arles there spreads the delta, administratively a single *commune*, the largest in France. A world apart of water and solitude, this island area of the Camargue once saw little activity but the herding of its bulls for the bullfights, and the play of wild-fowl such as flamingoes. But today the landscape is being changed: salt-pans occupy the coastal marshes and productive rice-fields the delta-lands.

This whole region, in fact, is in process of transformation. Where the stony and half-buried chain of the Alpilles formerly looked out over the flat, sterile surface of the pebble-strewn (Iran there is now cultivation, thanks to the diversion of irrigation water from the Durance. But the biggest changes have taken place along the coast east of the Rhone delta—and especially round the shore of the Etang de Bena. It was in 1952 that the port of Lavera was opened as a petroleum import point, and since then the Etang has seen the construction of a whole ring of refineries and petro-chemical plants

around it. With plans in hand to develop the neighbouring Gulf of Fos in the same way, this area bids fairly to claim the title of Mediterranean "Europort", just as Rotterdam has claimed it on the North Sea.

But Lavera, like la Caotat with its shipbuilders' yards, is only a postern to the main gateway of France on the Mediterranean—Marseille. Founded by the Phoenicians, colonised by the Greeks, grown to be the second city of France and the metropolis of the Midi, Marseille combines so many elements; by turns Corsican, Algerian, Italian, as well as French, it is lively, colourful, noisy, unruly. Until 1962, Marseille handled the constant stream of passengers and goods that passed between France and her North African territories. With the granting of independence, however, this traffic declined in importance, and the city has been glad enough to build up its interests in the ever-increasing inflow of petroleum, and to trade in chemicals, aluminium, fats and oils processed in its factories.

Marseille's great hope for the future is, and must continue to be, for better links with its hinterland—a hinterland that should include the whole Rhone valley, and, ultimately, the Rhineland.

In the immediate vicinity of Marseille are a number of smaller towns: the most important of them is Aix-en-Provence, a noble city dominated by the Montagne de la Sainte-Victoire. It is a university city, and is the judicial and religious capital of Provence.

Eastern Provence is a country of low mountains, most of them composed of limestone which produces table-top features or escarpments like Sainte-Baume and Sainte-Victoire. Some of the chains, however, are a product of igneous intrusions, and are porphyritic in character, such as the Maures and Esterel Massifs which extend right to the coast. These mountains are covered by forests of chestnut, pine, holm oak and cork oak, but they have suffered constant devastation by fire, and where this has happened, they are usually replaced by *maquis*. Here and there throughout the *depar lenient* of Var the forest opens out into basinlands where grapes and fruits are grown.

The coastline of Provence is steep and indented. On one of its bays stands the port of Toulon, now rebuilt after the destruction of the war years. With its fine quays, its arsenals and the shipyards at la Seyne near by, it affords the French fleet its best anchorage anywhere round the coasts of France.

Beyond Toulon, to the east, the effect of the Mistral is rarely felt, and the sun holds undisputed sway. Bay and headland alternate along the rocky coast; fragrant bushes spread over the hillsides, with palms and orange trees in the gardens of the coastal towns. This is the *Cote d'Azur*—goal of millions of holiday-makers (and their numbers increase each year), paradise of those who have leisure to do nothing but enjoy the sunshine, Mecca of celebrity and gangster alike. So great is the pressure upon land that these hillsides today are beyond price—hillsides behind Hyeres with its palm trees, Saint-Tropez with its marvellous bay, Saint-Raphael, Cannes with its luxury hotels and its pleasure-port of Antibes on the Cape. Metropolitan of the coast is Nice, the Paris of the Mediterranean (but Piedmontese until 1860) with its perfect setting beneath the *corniches* which fall as a series of terraces from the Alps behind. Then there is the tiny Principality of Monaco, with its casino-capital of Monte Carlo, and finally Mentone; a whole chain of resorts, with their hotels and villas facing the blue sea all the way to the Italian border. Inland, the former cultivation of fruits against the "wall" of the Alps

is declining, but around Grasse and Vence the flowers for their perfumeries still grow, bank upon bank on the hillsides, interspersed with olive orchards. The tourist traffic, which formerly was confined to the coast, is gradually spreading here into the interior, to the valleys and shoulders of the Alpes-Maritimes.

Corsica

Although it is separated by some 100 miles of sea from Provence, Corsica belongs, structurally, to the same granite and schist massifs that we have already noted along the coast of the mainland province. The island rises to over 5,500 feet and possesses a coastal plain only on its eastern side—a plain which, in the past, was too unhealthy for permanent settlement, and has only recently been brought into use for citrus-growing by displaced Algerian-French settlers.

Corsica enjoys clear skies and a vegetation cover to which the mountains give variety: a belt of vineyards and olives rings the island on the low coastal hills, giving way to groves of chestnut, (then to scented pine forests, and finally to the *maquis*. AU in all, this is an island whose scents and scenery, with purple, rocky hills and high, picturesque houses, have deservedly earned it the epithet of "isle of beauty".

The Corsicans themselves live by raising sheep and goats; neither cultivation nor industry seems to appeal to them, for only *i* per cent of the land is cultivated, over 40 per cent is waste, and there are no manufactures. A fiery and adventurous people, they have left their island in large numbers, and have settled on the mainland where they seem equally at home either enforcing the law or breaking it. Many of them are to be found in French political and administrative circles.

The only two towns of note on Corsica are Ajaccio, the historic capital, and Bastia which, lying as it does nearer to the mainland, has developed as the judicial and commercial centre of the island.

Languedoc

Although the east and west banks of the Rhone are separated only by the width of the river, Provence and Languedoc are very different in physical character. Where one is mountainous, the other is flat: where one has a rocky coast of headlands and bays, the other



As in Provence, the houses, of little Corsicail towns cling in serried, defensive ranks to the upper hillsides and mountain slopes; shown here, Sartene, at the southern extremity of this wild and rocky island.

has ashoreline where a series of brackish lagoons lies behind sandbars that form a perfect arc from the Rhone delta to the Pyrenees. There is, at present, another difference between these, two halves of the Mediterranean coast; whereas the shoreline of Provence is jammed with tourists that of Languedoc is for much of its length practically deserted. So much is this the case that a regional plan has been drawn up to try to ease the congestion of sun-worshippers in Provence by developing the empty beaches of Languedoc.

Behind the fringing lagoons the plains of Languedoc stretch inland, rising to the low ridges of the *garrigues*, and overlooked by the edge of the Cevennes and the turret of Mont Aigoual (5,100 feet). These plains are a sea of vines. Planted after the phylloxera had ravaged the area in the last quarter of the nineteenth century, the replacement vines have an enormous yield but the quality of their wine is much inferior to that of the vineyards, further north and west, or to that of the specialised vintages of Frontignan and Limoux in Languedoc itself. The life of the whole province takes its rhythm from



The Languedoc Canal draws its water from the Rhône; through a network of irrigation channels it is assisting the conversion of mediocre vineyards to more profitable uses; flooded rice-fields can be seen in the middle distance.

the vine, and the smaller towns are little more than large wine-cellar. But such concentration as this has its side-effects, one of them the recurring problem of over-production and surplus. To give more balance to the region's economy is precisely the object of the recently-completed canal system which, tapping the Lower Rhone, now carries its water westward across the plain and makes possible the cultivation of fruit and vegetable crops in place of vines.

Urban and industrial development here in Languedoc are of lesser importance. There is a hosiery industry deriving from the silk trade in the *departement* of Card; its headquarters is in Mimes—a town much more famous, however, for its Roman remains—and its outliers are found among the chestnut groves of the narrow Cevennes valleys. These valleys have served as Protestant refuges in the past; they are also noteworthy for the fact that, in autumn, they are liable to violent floods. Turning this fact to advantage, the Romans built their magnificent Pont du Gard aqueduct to carry the waters of the river eastward towards Avignon.

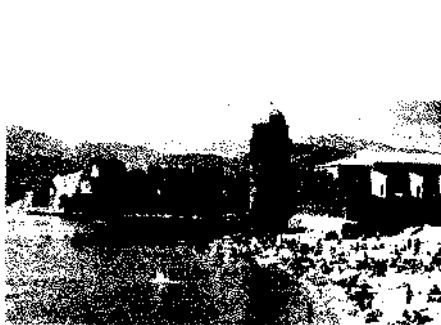


The medieval walled city of Carcassonne (restored in the XIXth century) dominates the great plain of Languedoc, looking out over a sea of vines which, however, produce only a modest, and sometimes unsaleable *vin ordinaire*.

Resides the hosiery industry, there is a small and declining coalfield around Ales, with a scatter of rather more prosperous metallurgical industries. Beziers and Narbonne are the principal markets for wine; Sète is the port which handles this wine, as well as oil and fertilisers, and Carcassonne makes a considerable profit from its splendid display of medieval walls and buildings. Elsewhere, there is little industrial life or prosperity. In the *departement* of Aude, the small manufactures have been hit by repeated crises and are maintaining themselves with difficulty: the small towns are stagnating if not actually in decline. To offset this, however, there is the growth of Montpellier, capital of Languedoc, with its renowned university, founded in the thirteenth century and cultural focus of the whole of the south of France.

Roussillon

South and west of the River Aude lies Roussillon. It consists of a

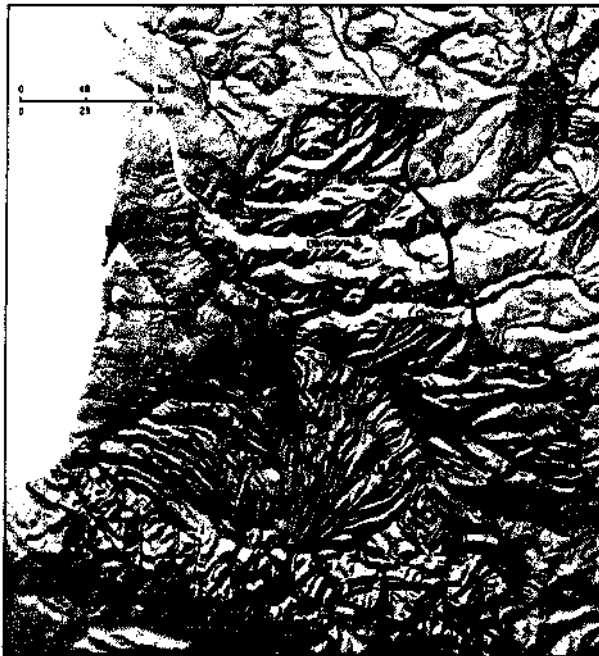


The old fort at Collioure, a fishing village in Roussillon; in the distance can be seen the vineyard slopes of Banyuls, backed by the Alberes Mountains, a spur of the Pyrenees which form the frontier with Spain.

plain, enclosed by hills on three sides: on the north, the dry, empty schistic ridges of the Little Pyrenees of Fenouilles; on the west, the great mass of Canson which rises above 0,000 feet; and on the south the Alberes chain, the extension of the main Pyrenees along the Spanish frontier, their slopes covered with cork oak.

Roussillon is Catalan by culture; it is also the region of France which receives the lowest rainfall. But the flow of such rivers as the Tech and the Ilet, coming down from the Pyrenees, or the streams from the Cerdagne Plateau, provide sufficient water for irrigation, and make this region a producer, like Languedoc, of vines and early vegetables, with apricots as the special fruit crop of the area. These latter are the best-known product of Perpignan, a town which acts as a market centre.

Here in the remotest south-eastern corner of France, the coast falls steeply away into the Mediterranean along a shoreline fretted by erosion into coves and headlands.



Population of principal towns (1968)

Bordeaux	555 000
Toulouse	439 800
Pau	110 400
Bayonne	110 200
Tarbes	72 700
Perigueux	56 900
Albi	53 600
Agen	53 100



Aquitaine and the

Aquitaine

Provence . . . Langudoc . . . Aquitaine; still we are treading in the footsteps of the Romans, who created a province of Aquitaine which stretched as far north as the Loire. Today, however, the name carries a narrower meaning for, following a reorganisation in the twelfth century, the old province was broken up and now comprises simply the basins of the Garonne and the Adour.

In structure, the Basin of Aquitaine resembles the Paris Basin, but in surface and landscape there is little similarity. This is mainly because Aquitaine's Tertiary cover is so extensive: the underlying beds do not reach the surface in a series of concentric rings as they do in the Paris Basin, and there is less scenic variety in consequence. Relief is less pronounced in Aquitaine while, at the same time, the alluvial cover of the northern basin is absent.

The centre of the Basin of Aquitaine is occupied by the wide Plain of the Garonne, surrounded by low hills. At the northern rim of the basin, the lowland is separated from the Massif Central by an intermediate belt of limestone plateaux, stretching from the region of Saintonge in the west, through Perigord to Rouergue in the south-east. Of these plateaux, Saintonge and Perigord arc Cretaceous in origin, gently undulating and well cultivated. Here we find caves which contain some of the world's most famous prehistoric art—at Lascaux and Les Eyzies. Here, too, are treasures of another sort, for the valley of the Dordogne is famous for its truffles and walnuts, and the whole district is renowned for its food. By contrast, Quercy is Jurassic in age and Rouergue Carboniferous. These higher plateaux, the Gaussees, are less fertile—without being quite so barren as the Grandes Gaussees further east—and more deeply dissected by the rivers, like the Lot, which flow across them. Little copses of oak dot their surface, a surface abruptly broken by the gashes of valleys, chasms or hollows which characterise all the Gaussees. On their

southern edge, the plateaux taper off into a series of rather low towers and promontories, the *serres* of the Agenais, overlooking the Garonne valley.

Westwards, Aquitaine runs out into the vast Plain of Landes, the sands that border the Bay of Biscay. Southwards, the abrupt rise of the Pyrenees above the plain is modified by the huge alluvial cone that forms the Plateau of Lanernezan and spreads in a wide delta-type fan northwards from the mountains. Each rib of the fan is represented by a long, narrow and often gravel-capped ridge. Armagnac, which lies across these ridges, is in consequence a dry country, for not only is surface water lacking but the flow of the Pyrenean rivers is erratic. On the east, Aquitaine ends where the granites of the Cevennes rise above the plains of Albigeois and Lauraguais, and the narrow Gate of Carcassonne leads through to the Mediterranean.

Under these favourable climatic circumstances, agriculture has flourished and dominates the regional economy: 75 to 80 per cent of the surface is under cultivation. Settlement is dispersed. Typically, the farms are several hundred yards apart, built on a slight rise and crowned with a picturesque dovecot, set amidst a jumble of small fields, all of different sizes and shapes, in which maize and wheat, vines and grass are to be found.

The fertility of Aquitaine was a by-word during the Middle Ages. It was one of the main granaries of France, and life there was pleasant and easy. Yet for a century past the vitality has been draining out of the region. From the plateaux there has been a tremendous exodus to the towns, and in the valleys the birth-rate has fallen to a very low level. It is true that the growing emptiness of the region has been offset in part by an influx of farmers from more crowded areas, who have taken over abandoned farms—men from Vendee and Auvergne,

The gentle valley of the Dordogne, winding among its walnuts and poplars, untouched by industry—an old-world landscape of picturesque villages and castle-crowned hills.

Narrow, winding lanes and XVth century stone houses at Sarlat—a scene typical of the little towns of Peigord and Quercy, redolent of the turbulent days of the Religious Wars.

The 300 foot dune at Pyla, the highest in Europe, heaped up by the winds off the Bay of Biscay. The trees on the reverse slope are part of the pine forest planted to control these shifting sands.

and especially Italians and Algerian repatriates. But the average age of the present farm population is high and, despite some real progress on the farms, yields of both cereals and dairy cattle in Aquitaine are well below the levels attained in northern France (a fact for which a very dry summer can sometimes be blamed).

The main valley of the Garonne, however, retains its importance and its population despite the rural exodus elsewhere. Its main products are fruits and vegetables—peaches from Montauban, plums from Agen, tomatoes, table peas—together with poultry, especially geese. These are all products involving a large amount of labour, and they have produced in turn a variety of processing industries which flourish here and offer local employment. So, too, does the production of wine around Gaillac and of brandy in Armagnac.

The life of the Basin of Aquitaine is dominated by the spheres of influence of its two major urban centres, Toulouse towards the

interior, and Bordeaux towards the coast. Four other towns have a more local importance—Albi, Montauban, Agen and Périgueux—towns whose legacy from a great past is to be found in their cathedrals or mansions, but whose importance in the world of today is simply that of administrative or commercial centres within their district. More characteristic of Aquitaine are the many small market-towns. A large number of them retain their original *bastide* form, as fortified towns built in the twelfth or thirteenth centuries as places of refuge during the incessant wars of the Middle Ages. The typical plan is that of a regular pattern of streets laid out round a square which, in turn, is surrounded by arcades.

Outside the two major cities, Aquitaine has only minor industries, though many of them have a long history, for instance the manufacture of woollen textiles at Castres and wool preparation at Mazamet.

The upper section of the Garonne Basin was known, historically, as



Above: The countryside of Aquitaine: moderate-sized holdings and mixed farming, irregular fields and dispersed settlement, with little woodland.



Top right: The plains of Lauragais, east of Toulouse, and the Garonne are the best cornlands of the Midi.



Left: The mighty rose-brick cathedral of Albi beside the Tarn; in the distance, the edge of the Massif Central rises from the plain of Aquitaine.



Right: Monpazier, typical of the *bastides*, or new towns founded in Aquitaine during the Middle Ages; they were usually fortified and regularly planned around an arcaded central market-place.

Upper Languedoc. Today, it is usually given the name of "Midi-Pyrenees Region". In either case it constitutes the economic hinterland of Toulouse. This city, where rose and red are the dominant colours in the townscape, stands at the elbow of the Garonne and possesses a great wealth of relics from its rich past, such as a superb twelfth-century church and numerous splendid buildings of the seventeenth and eighteenth centuries. But this attachment to the past does not prevent Toulouse from being one of the most rapidly-growing cities in France, with one of the most ambitious programmes of urban development. It has drained off the population from the surrounding countryside to such an extent that its hinterland has lost a third of its inhabitants in the past century, while the city itself has tripled in size. (Admittedly, there has also been a

Toulouse: the Place du Capitale, with its XVIIIth century town hall, centre of this rapidly expanding city. Parts of the modern suburbs can be seen in the distance spreading into the flat plain of the Garonne.



recent influx of Algerian repatriates.) Among its modern industries Toulouse can count two which have been symbols of its growth: France's largest aircraft-works and a vast chemical plant turning out nitrogenous products. It is a city whose political and cultural influence is very widely felt.

By contrast, the old provinces of Guyenne and Gascony are the sphere of Bordeaux's influence. Here the climate is maritime in character and the rainfall higher than at the inland end of the basin; here white stone replaces the red brick of Toulouse; here the influence of the sea is paramount. Bordeaux stands at the neck of the Gironde estuary, into which the Garonne flows, an estuary over 40 miles long, and 6 miles wide at the mouth. The city occupies a Gallo-Roman site, as both port and lowest bridgepoint, where the

Bordeaux: the lowest bridgepoint on the Garonne, with its port downstream on the left bank. Note the big blocks of new buildings in the distance, particularly on the left of the photograph.





main route to Spain crossed the river. It owes its growth and his fortunes, however, to the vineyards which surround it, for they are remarkable both for their extent and for their quality, as the names of famous vintages testify: Graves, Medoc, Lntre-Deux-Mcres, Saint-Emilion. Bordeaux's sea-borne trafrh developed from the export of wine to Britain during the English occupation in the Middle Ages.

Bordeaux lived through another golden age during France's colonial period in the eighteenth century, as many of the city's buildings testify, but this proved to be only a phase, and until recently the port and the city have been developing rather slowly; their major interest is in commerce rather than industry.

The rectilinear coastline of Aquitaine is formed by the long dune ridge of the Gascon Landcs, a barrier that effectively shuts oil the lagoons behind it and makes it difficult for their waters to escape. This is a wild shore which offers no shelter from the Atlantic rollers, save where a single breach leads through to the shallow basin of A reaction. The basin is of little use to shipping, however, and is more valued for its health resorts and oyster-beds.

On the landward side of the dune barrier, and securing it against drifting, there began about 17B7 the growth of plantations which have now developed into the full-scale afforestation of the whole surface of the Landcs. The natural conditions, with a sandy base overlying a hard-pan layer called *alios*, were marshy. The marshes and heaths have been replaced by pine forests that stretch from the outskirts of Bordeaux to the banks of the Adour 2½ million acres of forest which supply a half of the total French output of pulpwood and have given rise to such industries as resin-distilling and the production of cellulose. Unfortunately, these valuable forests are particularly susceptible to damage by fire and arc being replaced in some parts by cultivation.



Top left: Basque houses at Ainhoa, near St. Joan-de-Luz; nolo the characteristic wide-spaced limber frames, whitewashed plaster and slightly projecting storeys under low-pitched roofs.

Left: The Pays Basque, at the foot of the outlying spurs of the Pyrenees as they run down to the sea; in the distance, the minor peak of la Rhune.

To the south, beyond the Adour, lies Chalosse, and here there reappears the landscape of small fields, hedges, vines and pasture which we have seen to be so typical of Aquitaine as a whole.

In the foothill zone of the Pyrenees, where the mountains lie blue along the southern horizon, there are three small distinctive *pays*, separated from each other by the Adour and its two tributaries Gave d'Oloron and Gave-de-Pau. The first of these is the *Pays Basque*, lying south of Bayonne and cut in two by the Spanish frontier. It is a green and smiling land, its character formed as much by the mountains as by the sea, as much by an abundant rainfall as by an equally generous amount of sunshine. Its people, divided as they are between two larger nations, are proudly conscious of their individuality, their social distinctiveness, and their own language. They occupy a countryside noted for its maize and its apples. Along a coast which, like that of Roussillon at the other end of the Pyrenees, is deeply indented, there is a line of holiday resorts—Biarritz, Saint-Jean-de-Luz, and the frontier-town of Hendaye—to attract visitors to this "Cote d'Argent".

East of the River Gave d'Oloron lies *Beam*, second of the three foothill regions. Its settlements are more compact than those of the Basques, and its houses with their high roofs differ from the broad, low-arching, half-timbered Basque chalets. Beam is a region of pleasantly varied scenery, bosky on account of its mild climate, although in the north there is a sandy fringe belonging to the Landes, where sheep are pastured. Its capital is Pau, Queen of the Pyrenees, whose mild climate in winter attracts many a tourist seeking escape from the cold. Nearby, a new industrial area has been brought into existence by the discovery of the natural gas deposits of Lacq.

The third *pays* is *Bigorre*. Its focus is the upper valley of the Adour, though its entrance may be said to be at Lourdes on the Gave, the most-visited place of pilgrimage in Europe. Bigorre is a country of rich harvests, a richness which, like the poplars in its valleys, reminds one of Lombardy. Its main town is Tarbes, the principal centre of the mechanical, electrical and chemical engineering industries of the Pyrenean slope.

The Pyrenees

The Pyrenees form a chain which is the product of folding against the stable mass of the Spanish Meseta further west, a folding which preceded that of the Alps but was similar in character. The resulting chain forms Europe's most hermetically-sealed natural frontier: for a long time it could only be passed at its eastern and western ends. But there is a marked difference between the French and Spanish faces of this wall. The Spanish side of the Pyrenees, so reminiscent of Africa in colour and landscape, falls away gently across a series of plateaux surfaces cut by an occasional canyon: the whole mountain zone extends for more than 50 miles. On the French side, by contrast, the slope is less than 20 miles from foot to summit. Only at its eastern end is the main slope on the French side prefaced by a front range—a screen of limestone chains that run roughly parallel to the main crystalline Pyrenean ridge, such as the Massifs of Plantaurel and Corbieres.

The principal line of the Pyrenees is formed by a regular wall of Palaeozoic rocks with granite intrusions. The mountains are of rather even height—around 9,000 feet—and are crossed only by high passes that accommodate mule-tracks and permit the passage of little else. The slopes are forested, mainly with oak in the west and pine in the east, but much of the cover has been stripped away; the high pastures above the treeline are grazed by flocks of sheep. The western Pyrenees have a very heavy precipitation, but this falls off eastwards, and in Arriège and the eastern part of the chain skies are clear and bright.

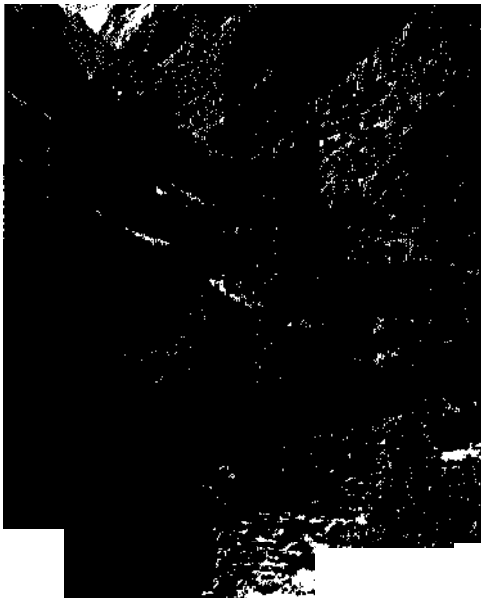
The distribution of valley and lowland is also different in the east and the west. The western mountains have high valleys which drop straight down the slope, and tend to narrow downstream, thus helping in the past to form small, isolated pastoral communities, between which contacts were few (although they are now linked by a foothill road). The only towns here are the small summer and winter resorts like Cauterets and Luchon. But from the Garonne (the upper valley of which, the Val d'Arán, is in Spain) eastwards the pattern is different: the mountains here are penetrated by broad valleys and interrupted by high, grassy plateaux. Although in the Pyrenees there are very few existing glaciers, innumerable cirques and small lakes attest the action of ice in these mountains in the past.

fHii



Above: The cirque de Gavarnie, one of the most popular tourist attractions in the Pyrenees, rises in tiers to a height of 10,000 feet at the head of several short, steep valleys (shown here, the Gave-de-Pau) which run down northwards to the plain.

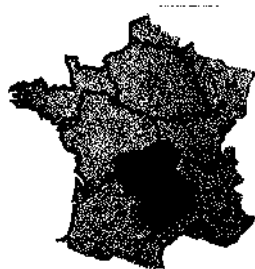
Right: One of the high valleys of the central Pyrenees; the torrent of the Ariege rushes down a narrow defile between poplar trees and grassy banks.





Population of principal towns (1968)

Clermont-Ferrand	204 700
Limoges	148 100
Montluçon	71 100
Vichy	57 000
Brive	49 600



The Massif Central

The name of Massif Central has been given to the triangular area of old basement rocks, thick, extensive and mountainous, that provides the reservoir out of which flow so many of the rivers of France, from the Yonne to the Tarn, the Vienne to the Gard. That it has received this name is interesting when we consider that its southern edge is less than 50 miles from the Mediterranean, that it is situated almost entirely in the southern half of the country, and that it is by no means a uniform mountain area, but is divided into a number of sub-regions as a result of folding in the Hercynian era and subsequent erosion. Rather the name is a testimonial to the influence of these 30,000 square miles of upland (their average height is a little over 2,000 feet) in the life of France.

The Massif lies open to the north and west, where the long valleys of the Loire and Garonne headstreams make it easy to penetrate, if not to cross, the mountains. By contrast, the southern side rises abruptly above the plains of the Mediterranean coast; yet it is from this side that the most important cultural and linguistic influences have entered the mountains. There is no point of view, geographical or political, from which the Massif can be regarded as a unity, unless it be this: that it is uniformly regarded by the peoples of the surrounding lowlands as a poor, infertile, cold country; that its soils are too waterlogged, or too sterile, or too dry, for satisfactory farming. Its climate is severe and its rainfall heavy and nowhere, except in Limagne, are harvests likely to be good.

The Massif Central is a country of small, peasant-owned farms where life is hard and the houses, at least until recent times, were liable to be crudely constructed of undressed ragstone with tiny window apertures. Settlement takes the form of widely-scattered hamlets. Farm activity is concentrated on raising livestock for meat—beef, pork, and, in the south, mutton. Cereals play a very minor role—although the area of the Massif is the same as that of the Paris Basin, its cereal

production is a mere one-eighth of that of the Basin. Furthermore, the area under forest is also below the national average. The dominant feature of the landscape of the Massif Central is grassland—small grass fields with hedges in the west, and open grasslands and rough grazing on the higher plateaux.

Lying, as it does, away from the main routes of commerce and invasion, the Massif Central has always lived a life a little apart from that of the nation. Farming still employs 40 per cent of the active population, arid this despite the fact that the exodus from the farms to the cities, which has been going on for the past fifty years, has been larger here than anywhere else in France. Paris and the other big cities have attracted many, and in the last few years a trend towards urbanisation *within* the region has become noticeable. Less than 30 per cent of the labour force, however, is employed in industry, in spite of the presence of several small coalfields. The greater wealth of the region lies in its tourist attractions: its lakes (some of them created by dams and power schemes), its spas, its ruins, its medieval towns, and its wonderful scenery.

If we exclude Forez (which can be considered a part of Lyonnais) and the hills of Bourbonnais, we can divide the Massif proper into three parts: Limousin, Upper Languedoc and the Auvcrnac.

Limousin

Red soils and green fields; lines of oak and chestnut and a sense of being in the depths of rural France; fine herds of cattle grazing on the hills and in the moist valleys with their streams and ponds: this is Limousin as it rises gently from the flanking lowlands towards the centre of the Massif. At higher levels the scene changes: above 2,000 feet there is a country of round, granite hills, a sterile, melancholy land of heather and bracken. These higher elevations are

almost uninhabited (apart from military training camps) and are in process of afforestation. The whole area has a high rainfall, and its streams flow both north to the Loire and west to the Dordogne.

The centre of Limousin is Limoges, a town which is southern in both dialect and construction, and medieval in much of its appearance, with its narrow streets and lanes. It early achieved a reputation for enamellware, and since the eighteenth century has been the principal producer in France of fine chinaware. Today it also manufactures shoes, gloves, and electrical goods and motors. Further east, in Marçillac, the town of Aubusson has successfully revived its ancient manufacture of carpets.

The part of this region which lies south of the high plateaux is known as Lower Limousin. This is an area with a delightful variety of landscapes, both wild and cultivated: they range from the bare

uplands to the vineyards and maizefields of the Dordogne, with a whole range of valleys in between, some gentle and smiling, some deep and gorge-like. Even the character of the houses adds a pleasant note of distinctiveness to the landscape. They are stone-built, with sharply peaked roofs, and often have a small tower at one end of the facade.

There are only two towns of any size in southern Limousin. One is Tulle, situated in the deep valley of the Corrèze, a site which makes expansion and contact difficult. Better located for these purposes is Brive, surrounded by plains which are mainly given over to the cultivation of vegetables. Consequently Brive has become the focus of a region which extends down into Aquitaine and back into the Massif, and has absorbed a good deal of the rural population exodus from these areas.

The varied landscape of Lower Limousin: sunken valleys, reservoirs, heathland on the plateaux, bocage and vegetable fields in the plain. (The upper Dordogne near Argentat.)



Distinguished artists have collaborated with skilled craftsmen to revive the traditional tapestry industry at Aubusson in the present century, after a period of decline.



Above: The old towns of Limousin huddle their pointed roofs and picturesque turrets round the crumbling ruins of medieval castles; shown here, Turonne.



Top right: A typical village of the remoter regions of Rouergue; old stone houses cluster beneath a castle guarding a bridge over the Aveyron.

Right: The desolate limestone wastes of the Causses, 2,500 to 3,500 feet above sea level, where the solitude is broken only by great flocks of sheep roaming under the harsh skies, and where surface water disappears into subterranean chasms.



Rouergue and Gevaudan

The broad southern end of the Massif Central fell within the limits of the former province of Upper Languedoc, and was covered in part by the ancient county of Rouergue. But the landscape divisions of this region are so varied that it is impossible to pin them down by name. There is, however, a general distinction recognisable between the landscape developed on a gneiss or schist bedrock, which has weathered to give a siliceous soil, and that developed on limestone, and marked by an absence of surface water.

Both types are generally infertile. The first is represented by S^ggalas—roughly the area lying between the Rivers Tarn and Aveyron. This was formerly a region where the poor soils yielded only meagre crops of rye, and where the remainder of the land was under grass, heath or chestnut woods. Today, thanks to the provision of lime and other fertilisers, the standard of its harvests has greatly improved.

The second type is found in the Causses. This is a type of limestone upland of Jurassic age which we have already encountered, though in a rather less bleak form, in Quercy (see p. 95), and which penetrates the S^ggalas region around Rodez. The further east one goes, however, the more pronounced become the features of this region. Here we find almost 2,000 square miles of limestone tablelands, mostly lying at over 3,000 feet, stony, empty, and scarred by caves, hollows and chasms. Round their edges the blocks fall away in sheer cliffs and towers, at the foot of which, in spectacular canyons, flow the River Tarn and its tributaries. One by one the traveller crosses them: the savage Causses de Sauveterre and Mcjan in the north; the Causse Noir with the deepest ravines; in the south the immense Causse de Larzac with the flocks of goats whose milk goes into the making of Roquefort cheese.

East and north the crystalline rocks which underlie S^ggalas reappear and form the pays of Gevaudan, but the countryside continues barren and sparsely populated: the high plateaux, melancholy and rock strewn, support only a thin and stunted vegetation, with here and there a few pine woods withstanding the severe upland climate. The surface of the plateaux is almost level: it rises imperceptibly from 3,000 to 5,000 feet to form the Monts de la Margeride, and to 5,500 feet at Mont Lozere.

At the western end of Gevaudan, where it approaches the main mass of the Auvergne, some of the lavas flowing out from the latter

have cooled to form a continuation of the plateau surface. This is Aubrac, with its bare horizons and immense rough grazing lands. In summer, cattle and sheep are pastured here: in winter the area is deserted and snow-covered, the only sign of life an occasional shed used for cheese-making.

Auvergne

Auvergne is first and foremost volcanic in its origins. It is true that, within its regional boundaries, it is usual to include the hills of Bourbonnais and the Monts du Forez, which are granitic or schistose in composition, but in the remainder of the region it is the extinct volcanic cones that dominate the scene, and their lavas which provide the material for the rather dreary-looking dwellings of the inhabitants.

Four areas of eruption and outflow can be distinguished. (1) The chain of Puys, a series of cupolas crowned by the classical outlines of the Puy-de-Dôme (4,806 feet). (2) The Mont-Dorc chain, which has undergone considerable erosion since its creation, but still attains a height of over 6,000 feet at the source of the River Dordogne. (3) The huge cone of Cantal, with a circumference of almost 100 miles and a height of more than 6,000 feet; the cone, rising regularly above the Massif, is ribbed by a series of *planezes*—valleys eroded in the lava and radiating from the cone like the spokes of a wheel; cereals are grown in them and beef cattle arc raised on their pastures. (4) The Monts du Velay, a high, rough plateau with the characteristic features of basalt country—butes, dikes and scattered lakes—which surrounds the sources of the River Loire and is, for such an area, rather surprisingly well populated.

Between these higher volcanic masses there are a number of intervening basins in which the life of the region tends to concentrate—basins like that of Puy-en-Velay, with its curious volcanic plugs and obelisks. But by far the largest and richest of them is Limagne, the core of Auvergne: it is a depression edged with faults of Tertiary age, and has become floored with lake-bed remnants and alluvial deposits. Here and there a small volcanic hill breaks the smoothness of the valley floor, but in the main this is an area of great agricultural richness, comparable with the Plain of Alsace in its output of cereals, grass and tree fruits. It merges at its northern end into the broader plains of Bourbonnais.



Top left: The 1500 foot gorge worn by the Tarn among the limestone rocks of the Grands Causses; its strikingly coloured, almost sheer sides are a well-known tourist attraction.

Top centre: Little towns left behind by the passing centuries doze on the banks of the Lot and the Tarn; *shown here*, Espalion on the Lot.

Top right: Goats' milk from the Causse de Larzac is fermented in the unique cellars of Roquefort.

Left: Auvergne is studded with the ancient volcanic craters of the chains of Puy, Mont-Dore and Cantal; *shown here*, the Puy-de-Dome.

Clermont-Ferrand is the undisputed capital of Auvergne. Lying on the lower slopes of the Puy-de-Dôme, it possesses a university and a fine Gothic cathedral. It is also the leading French manufacturer of tyres and rubber goods, while Thiers, situated on the opposite side of Limagne, is noted for its cutlery. This whole region is architecturally rich in Romanesque churches—it was here that the First Crusade was born, in the eleventh century.

So far, we have been considering the three main sections of the Massif Central. To complete our survey, however, we must notice two other regions which can be regarded as part of the Massif. These are *Bourbonnais* and the *Cevnnes*. Bourbonnais lies at the north-eastern apex of the Massif's triangle, where the mountains become hills and then fall away to the plains of the Loire Basin. Consequently, Bourbonnais is a transitional region: in the south it contains

the edges of the granite massif—in Combrailles and the Monts de la Madeleine—while in the north it extends out over the Tertiary detritus that makes Sologne (see p. 111) a poor and infertile area. It contains regions of fertility as well as barrenness, forested hills (among which the oak woods of Tronçais are held to be the finest in France) and rich farmlands. Here, as we enter the Loire valley, we find the old pattern of great estates and share-cropping tenancies still in existence.

Of the region's towns, Vichy has recent, sad memories of being a capital (1940-44) and a much more enduring reputation as France's premier spa. Moulins, situated, like Vichy, on the Allier, is a town whose industries are growing steadily, although in this respect it cannot quite rival Montluçon in the parallel valley of the Cher. The latter grew up as a mining centre on a small coalfield which is

Le Puy on the upper Loire is packed between two of the most striking of the basalt pinnacles which are strewn across the plateau of Velay.



In Forez (shown here) and neighbouring Limagne, the Loire and the Allier respectively have created two of the rare fertile valleys of the Massif Central.

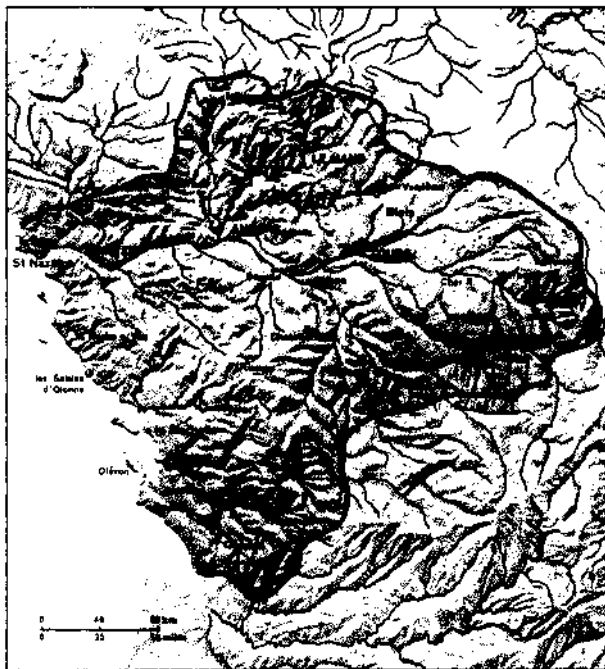


now worked out, but it retains a very active set of industries nevertheless, and makes metal goods, electrical equipment and articles in rubber.

The final subdivision of the Massif Central is that of the Gevennes. Like a curving balustrade round the south-eastern edge of the Massif runs a range of mountains, broken, varied in character and structure, but forming an unmistakable divide not only between the streams that flow to the Atlantic and those that flow to the Mediterranean, but also between the climatic sphere of influence of those two seas, and their respective flora. The line of this divide runs from the Montagne Noire, which rises gently to 3,500 feet above the Gate of Carcassonne and the plain of western Languedoc, eastwards through the more rugged Monts de l'Espinouse, past the peak of Mont Aigoual overshadowing the Causses, and across the lonely upland of Gard, so much of whose population has migrated to the valleys below. From here the line continues through Mont Lozerc and Tanargue with its impressive escarpments and, now running northwards parallel with the Rhone, includes the Monts du Vivarais, with their volcanic outliers, the dark Coirons hills overlooking the river opposite Montclimar. Northwards again, Mont Pilat (4,700 feet) looks down on the Lyons industrial area, and links the southern mountains with the last section of this 300-mile divide—the Massif of Morvan projecting into the Paris Basin far to the north.

Top right: Vichy is the queen of French spa towns, and its mineral water has acquired an international fame; but with its many hotels and natural attractions it is becoming also a holiday resort and conference centre.

Right: Mont Aigoual is the watershed which divides the Atlantic from the Mediterranean seaboard. Its northern face dominates the Causses; the chestnut groves and terraced fields of its steep southern slopes, running down to the Gevennes, are rapidly being deserted by their inhabitants.



Population of principal towns (1968)

Nantes	375 000
Tours	201 600
Le Mans	166 200
Angers	163 200
St. Nazaire	110 900
Angouleme	92 100
La Rochelle	87 500
Poitiers	79 700
Bourges	76 000
Niort	56 000
Chateauroux	55 500
Blois	c. 49 000



The Loire Valley and

France

The Loire Valley

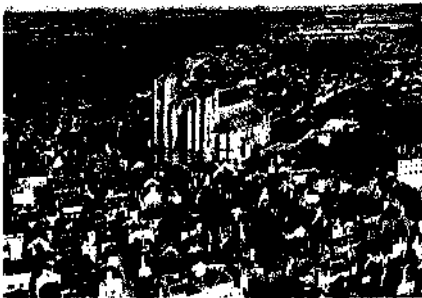
If the main role of the Massif Central in French life is to act as a dividing force between North and South, then it is the function of the Loire Basin to unite them. For here is the true centre of France, judged not only by geographical distances, but by the whole balance of life and thought. Over the past hundred years, for example, despite all the movement between country and town, the total population of the region—3 million—has remained absolutely stable. In every table of statistics, the Pays de la Loire always appears in the middle, never at the top or the bottom. Even the climate is free from extremes: early springs, bright summers, mild autumns. The contours of its relief, too, suggest a region devoid of excitement or excess; they are softly rounded whether the underlying material is limestone, clay, sand or—as in the west, where the region impinges on the old Massif of Armorica—granite.

Perhaps the reason why this region represents so true a mean of all things French is precisely because it is so varied in detail: in its agriculture, its land-holdings, its types of settlement. It has few great forests but many woods; only one large town but many small ones, set at regular intervals throughout its length and breadth, and all of roughly similar size. It comprises four of the ancient provinces of France....Berry, Touraine, Maine and Anjou....and these, as the favourite retreats of the French kings of the fifteenth and sixteenth centuries, are full of those wonderful Renaissance chateaux which no foreign tourist can possibly neglect. And not only the big, famous show-pieces, for these provinces also possess an unrivalled number of smaller estates and chateaux, still occupied and administered by their owners. Not for nothing does Touraine claim to speak the purest French of all, and to be called "the garden of France", or Anjou cling to a reputation for its "douceur angevine". These are lands of great charm, of balanced ease; that is, of good nature informed by reason.

Alone among the regions of the Loire Basin, Berry, the *pays* of the rivers Indre and Cher, attains altitudes of more than 1,200 feet. Apart from these two upland areas it is made up of four parts: (1) Boisshot in the south, a hummocky, wooded country with well-watered valleys; (2) Brenne in the west, a mournful land of barren heaths, marshes and lakes on a clay base; (3) the Champagne of Berry in the centre, with its broad plains of permeable limestone, covered with alluvial drift, fertile enough and famous for its sheep; (4) the Sologne in the north, reaching up into the great bend of the Loire, an area of sand and marshy waste, once so unhealthy, but today in part drained and afforested with pine and birch, and abounding with game for the hunter.

The province has three towns of note. The first of these is Bourges, fifteenth-century capital, and proud of its splendid cathedral with its five portals. Today Bourges is "back on the map" with its modern metallurgical industries and motor-car manufacture. The second town is Vicrzon, an industrial centre producing machinery, especially agricultural machinery, and earthenware. The third is Lhateauroux, which makes lingerie, sheets and clothing, in part from materials supplied by cottage industries in the area.

Fringed with famous vineyards (Vouvray, Anjou, etc.) and lined with pleasant towns and spectacular chateaux all the way from the Orleanais into Touraine and Anjou, the broad Vale of the Loire is noted for the market gardens and nurseries which cover much of its floor. This is a smiling countryside where each locality has its special crop of vegetables or flowers: around Orleans are the nursery gardens; around Blois the asparagus beds, and so on, through a whole range of specialities flower seeds, rose bushes, pear trees. And everywhere among the gardens are the small, friendly, low-roofed houses, brick-built in the upper reaches, and in Touraine and Anjou constructed of attractive white stone, with slate roofs and vine



Top left: The medieval buildings of Bourges, capital of Berry and refuge of the monarchy during the Hundred Years' War, rise tranquil over the plain.

Above: The Loire valley boasts a dazzling collection of historic chateaux, set in their vast estates. Chambord, the most majestic of all, rises in the forest on the boundaries of Sologne.

Left: The five portals of the cathedral at Bourges, one of the masterpieces of French Gothic.

trellis-work on the walls. Here and there in the valleys of the Loir and Cher we find also cave-dwellings carved out of the soft valley-side chalk and tufa.

The towns of the Loire valley are an interesting mixture of the old and the new: Blois lies at the feet of its royal castle, and has developed industries making chocolate and motors; Tours is a tourist centre with much to attract the art-lover, while its suburbs are modern and industrial. It lies across the watersmeet where the Cher joins the Loire, and draws to it the lines of communication from all three of the Loire's main south-bank tributaries. Saumur is the centre of the Anjou wine area. Round it, and served by a string of smaller towns, lie the most fertile (but also the most flood-prone) lands of the Basin. Angers occupies a position comparable with that of Tours; it stands on the river Maine just above its junction with the Loire, and just below the point where the latter's three major north-bank tributaries—Loir, Sarthe and Mayenne—converge. Lying as it does at the very edge of the Armorican Massif, it possesses slate-quarries and a cable-works, and has recently acquired a branch of the electronics industry. So, too, has Cholet, a little to the south-west, in an area previously noted for shoe-manufacturing and flax-spinning. North of the Loire, where the Loir, Sarthe and Mayenne converge upon Angers, lies the province of Maine. The three rivers rise in the densely-wooded hill country of Lower Normandy and Perche, whose old rocks rise to 1,250 feet or more in the local "Alps". Consequently, Maine is a province of geographical transitions, not only from the upland north to the valley-level south, but also between east and west, for it lies astride the geological junction between the young formations of the Paris Basin—the Jurassic limestone and Cretaceous sands of Upper Maine—and the ancient Massif of Armorica, here folded into a series of sandstone ridges (Lower Maine).

Top right: Blois: the central areas have been rebuilt after the destruction of the war, as in most towns of the Paris Basin, in a sober style harmonising with the remaining older parts.

Right: The valley of the Loire near Saumur: orchards and nursery gardens stretch under soft skies from the river and its islets to the gently rolling horizon.



The castle at Angers, rebuilt in the XIIIth century lifts the imposing masses of its seventeen round towers above the river Maine.

Lower Maine is a country of *bodice*, like Normandy, which it so closely resembles and rivals. Its farms are built on the open-court plan, and it is a producer, like Normandy, of meat, apples, cheeses and, in the west, of cereals.

Eastern Maine lies within the industrial orbit of Paris: that is to say, a number of plants have been located here, between the Loir and the Sarthe, as a result of the decentralisation policy for French industry (see p. 36). This is particularly true of Le Mans, which is expanding very rapidly, aided by the fact that it is an important railway junction. It has acquired an automobile industry as well as foundries and electrical engineering plants. West of the Sarthe, however, there is little evidence of this wave of industrialisation, and Lower Maine—with the sole exception of Laval which, like Le Mans, manufactures electrical goods—remains a backward and even declining region.

Enlarged by the How of the Maine and bordered on its south bank by the Mauges, an area underlain by schists, and yet another region *of horage*, the Loire flows on into Brittany. But at this point Brittany is still French rather than Breton—French and rather Hat. We could

perhaps place the frontier between French and Breton at the head of the Loire's tidal channel, where stands the great port of Nantes, half Breton and half Vendec.

Nantes grew and flourished upon France's colonial trade in the eighteenth century. The legacies of this past are to be found today in the fine old buildings of the town and in the industries it has retained. The chief of these are food-processing industries (such as arc so often to be found in port-cities with colonial connections) and shipbuilding and engineering.

Below Nantes, the Loire divides into several channels, before finally opening out to form its estuary. Here stands Saint-Nazaire, the outport of Nantes. Because of its naval importance, Saint-Nazaire was totally destroyed during the war, but it has been revived to provide, once again, the most important naval dockyards in France, and with increasing imports of petroleum has developed refining and chemical production. Not far away, and adjacent to the peat-cuttings of la Briete and the salt-marshes of le Croisic, arc situated the finest sand beaches in France and the gay holiday resort of la Baule.

Poitou and Charente

South of the Loire, we find two main regions: Poitou, and what is usually called nowadays "Charente" (after the small river draining it, although it comprises no less than three *pays* Angoumois, Aunis and Saintonge). All of them were once part of the Roman province of Aquitaine, and together they make up the central section of France's Atlantic seaboard: the section between Loire and Gironde. Indeed, they have much in common, for they are all predominantly agricultural areas, and they all possess features which make them regions of transition between west and south in France. Place-names, bright skies, houses with roofs of flat tiles, vineyards—all these speak of the south, while family-names, accents, livestock-farming and dairying belong to the west and north.

Poitou unquestionably belongs, however, to the lands of the Loire Basin; its main river, the Vicenne, joins the Loire near Saumur, and it, too, is a region of famous chateaux and great estates. Geologically, Poitou lies in a col—an opening through which, in the Mesozoic era, the seas covering the Paris Basin were linked with those in what is now the Basin of Aquitaine, the channel being confined between the two upstanding massifs of Brittany and the Centre.

Right down to the present day Poitou has kept this role of passage-way between northern France and the south-west, a passage followed by many a medieval invader. It is a land of open horizons, a plain based mainly on Jurassic limestone, with few valleys and light soils; in the east there are contrasting areas of Tertiary clays and low-grade forest. In general, Poitou is a land of arable farms and cereal cultivation. Settlement consists of both large villages and isolated farms.

Top right: The village of Angles, on the little river Anglin in Poitou; the scene is typical of the pleasant, rather undistinguished but quietly prosperous countryside of this province. Note the watering-place beside the bridge.

Right: The ancient city of Poitiers, one of the chief towns in western France. Calm, untouched by industry, it still retains its importance as a regional centre and university town, besides possessing unique archaeological and historical attractions.





The fishing port and resort of La Rochelle, surrounded by the old Huguenot defence works, is one of the most picturesque cities in France.



Marais Poitevin: tree-shaded canals form the means of connection between the farms of vast expanse of fertile, reclaimed land.



Pu- little church of Breuillet: its rich romanesque facade is typical of the style for which Saintonge is famous among archaeologists.

Towards the coast, Poitou drops away to fertile alluvial plains and, west of Niort, these in turn give way to the Marshes of Poitou, an area of some 100,000 acres along the line of the river Sevre, terminating in the Bay of Aiguillon; by a process of diking and draining, and the construction of a whole network of canals, these marshes have been reclaimed for cultivation.

The northern "gatepost" of the Poitou Gap is provided by the hills of Gatine, a ridge that runs south-east from Nantes towards Poitiers, and that represents the southern extremity of the Armorican Massif. Here, as we might expect, we find the landscape of *bocage* and pasture which we have seen to be characteristic of the inland end of the massif, and which we shall encounter again in Lower Normandy. Gatine is a region of beef cattle and goats, while fodder, root crops and vegetables are also grown there.

Hut there is still one more subdivision of Poitou to consider, and it, too, belongs geologically to Armorica. This is Vendee, which has

preserved the distinctiveness of its name at least since 1793, and which in some senses has more in common with Brittany than with Poitou. It was in 1793 that civil war erupted in these parts, a war fought in the maze of sunken lanes and behind the hedges and the pollarded oak trees of the thickets, a war of resistance against the lances of the Revolution. To this day Vendee is a profoundly conservative region, where the traditional forces of family pride and share-cropping tenancies still mould society.

Vendee is a region of hills and *bocage*. Northwards, however, it falls away to a fertile plain and then, as in the case of the Sevre valley further south, to a marshy coastal area, the Marais Breton. Beyond the marshes there lies a wooded dune belt, and then the sea. Offshore are the low island of Noirmoutier, which encloses the Bay of Bourgneuf, and the small lie d'Yeu, which reminds one of Brittany with its rocky shores. South of the marshes lies Les Sables d'Olonne, one of the main fishing ports of the Atlantic coast.

Such towns as Poitou possesses are little more than market-towns with small industries. Poitiers itself, Roman in origin and endowed with some remarkable monuments of its past, boasts a fine university, and judicial and administrative functions. Chatellerault, rather more active industrially, has succeeded in converting the armaments production for which it was once famous into a whole series of metallurgical and electrical manufactures. Niort combines some old-established tanneries and leather manufactures with wood-working crafts.

Charente lies to the south of Poitou and, with the exception of some fringe areas which are underlain either by the gneiss of the Massif Central or by sandy deposits of the Landes type, it is all limestone and chalk country. It is an open land with little forest and less relief, but its agriculture does show a good deal of variety; holdings are small and owner-operated.

What the landscape may lack in distinction, however, is amply made up for by the bright skies of Charente and by possession of a quite unique collection of small Romanesque churches. The rural economy has two major supports: (1) the vineyards, ravaged by phylloxera at the end of the nineteenth century and thereafter concentrated in the "Champagne" of Angoumois, on the middle course of the Charente, where they produce the world's most famous brandy-cognac; (2) the raising of dairy cattle, particularly in Aunis, on former vineyard lands and by means of concentrated feeds brought in by the farmer. The dairy products are handled by co-operatives and processed in a number of model creameries.

Along a coastline which is sandy and muddy by turn, and is sheltered by islands, the culture of oyster-beds and the gatherings of mussels are important activities. At the mouth of the Gironde, when pine forests fringe the chalk cliffs, stands Royan, a seaside resort which has been brought back to life by reconstruction after the war. Further north, the ancient Huguenot fortress-town of La Rochelle is now rapidly expanding. To its own picturesque fishing port it has now added the general cargo docks at nearby La Pallice, and has also acquired railway workshops and a part of the automobile industry.

On the coasts of Charente, old saltmarshes have been converted into *claires*, or oyster beds, where the Portuguese variety in particular are cultivated to provide 75% of the national consumption.

The river Charente flows past four other towns of modest size: Angoulême, occupying a fine hillside site, and (the only true industrial centre in the region, with paper-making and the manufacture of arms as its two main activities; Cognac, with its distilleries and bottling plants; Saintes, *locus classicus* for the archaeology of the Roman period, but devoid of any industry and serving simply as a market-town; Rochefort, just above the river-mouth, where little has happened to stimulate development since its naval base was created in the seventeenth century. But all in all it scarcely comes as a surprise to learn that the inhabitants of this region, and especially Sautonge, have contributed a considerable share of the French emigration over the years to Canada.



Armorica

Lower Normandy

In normal usage the name Lower Normandy covers the three *departements* of Calvados, Orne and Manche. This is not entirely logical, for not only does much of Upper Normandy lie lower than Lower Normandy, but the region itself should much more appropriately be regarded as ending on the east at the River Orne, and including Perche on the south. The Pays d'Auge and the Plain of Caen, with their Jurassic and Cretaceous foundations, belong geologically to the Paris Basin, just as their seaside resorts and their industries—especially those of Caen itself—are related economically to the Paris region.

Taking an imaginary line westwards from the Seine, we pass first across the fertile plateaux on either side of the Lure valley, with their broad acres of cereals (see p. 60), and then, once across the River Risle, enter a region of more pronounced relief and more surface water. Here we have Lisieux and Pays d'Auge, regions of pasture and orchards, where high hedges conceal and sunken lanes lead to many an elegant brick-built manor-house of the sixteenth century, or a half-timbered farmhouse set amidst the fields. Westwards again we find the *campagnes* of Caen and Argentan, underlain by Jurassic beds and, like the Lure plateaux, open country given over to the cultivation of cereals. The limestone, used for building, also contains iron ores which are mined to feed the furnaces at Caen. West of Caen, in Bessin, we find woods and pastures once again and a number of charming thirteenth-century churches sheltering among them.

Southwards from here, there is a gradual rise towards the interior of Normandy, where the pastures of the *borage*, famous for their cattle and their savoury cheeses, lift towards the forested summits of the hills of Perche. These hills, with their abundant rainfall, have given their name to a famous breed of horses—the percheron—and form the major watershed of north-western France.

A number of the Norman towns have traditional activities or industries: Lisieux is a place of pilgrimage which draws multitudes of the devout, and Flers is the centre for a long-established (tooth-making) industry. But with the spreading industrialisation of the western Paris Basin (see p. 60; these activities are losing importance in relation to newer sources of employment. Alençon, Argentan and Flers, for example, have acquired some modern industries such as domestic appliances, electronics and asbestos goods, while Dives makes wire from copper and steel. Meanwhile Caen has become a centre of first-rate importance. Before the war its port and steel-works gave it a local role, while its university and fine churches made it a cultural centre. Except for the churches old Caen was devastated by the fighting in and atomic! the town in the summer of 1944. The town which has been reborn from the ruins is not only a fine achievement in reconstruction but also a much more important industrial centre than the old, with new plants that make cars and electrical equipment.

The coast of Normandy is lined with seaside resorts sufficiently varied in quality and status to suit every pocket. Among these, Deauville is the undisputed queen of the Norman coast.

The regions so far considered all belong, geologically, to the Paris Basin. But south-west of Caen we enter the realm of the Armorican Massif, and at once notice a contrast with eastern Normandy. Such industries as exist are little more than rural crafts. We have here the sense of being in the depths of rural France. A double line of hills runs from east to west across the area, from Perche to the Channel coast on either side of Cranville. They attain heights of up to 1,200 feet, and enclose the Upper Orne Basin between them, with its steep-sided valleys and rocky outcrops that provide building materials for the grey-stone houses. (Indeed, this area is sometimes

known as "Norman Switzerland".) The dense forests of hilly Perche give way, nearer the coast, to the classic *bocage* landscape of western Normandy, with clumps of fine trees shading the small pastures and their high, enclosing hedges. The farmers here concentrate exclusively on dairy products, especially butter. This dairy-farming is at its most intensive around the small cathedral town of Coutances, and in the Basin of the Vire (the next river west of the Orne) where hardly a village remained standing after the battles of 1944.

Attached to the body of the massif by a narrow neck of Palaeozoic rocks is the Peninsula of Cotentin in the north. Its western shore is rocky; the Channel Islands can be regarded as detached sections of this shoreline. The eastern side is sandy, and where the peninsula

An old half-timbered farmhouse in the Pays d'Auge of Normandy, slumbering peacefully among its meadows and orchards. Note the close resemblance to certain types of medieval English country building.



is joined to the main block there is a wide area of marshland which was the scene of the American airborne landings at the start of the invasion in 1944. The peninsula projects far out into the Channel towards the coast of Britain and in landscape and climate resembles south-western England. At its tip lies Cherbourg with its splendid harbour, the third passenger port of Fiance and a main point of embarkation for the transatlantic routes.

In medieval times, Normandy was virtually an independent state, well governed by a strong line of dukes. To this day it remains one of the most richly endowed provinces of France. The Normans themselves have retained something of the appearance and traits of their Viking ancestors: they are tall and fair and, in the sea-rover tradition, have made a great contribution to French colonisation

The verdant bocage of Perche, seen here in the hills between Normandy and Maine, is continued north of the Loire as far as Brittany. This province is famous for its draught-horses.



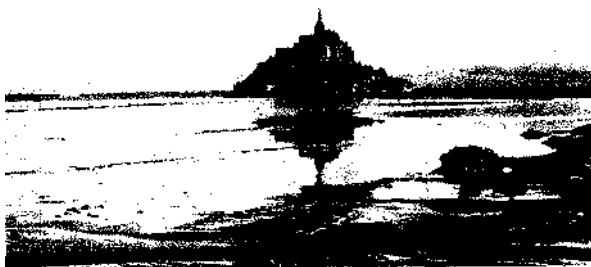


Caen, capital of Lower Normandy, with its five great churches. In the foreground, part of the old town which survived the bombardments of 1944; beyond, the rebuilt centre; on the right, ultra-modern buildings; on the horizon, the port on the Orne, and the steelworks.



Above: Coutances; the soaring choir, one of the purest examples of XIIIth century Gothic.

Top right: The Xth century frontier abbey of Mont-Saint-Michel.



Right: Tiny fields on the bushy slopes of Brittany.



overseas, especially in Canada. But little by little they have been turning their backs on the sea, in order to devote more of their efforts to the exploitation of their fertile soils and the development of their industries.

Brittany

Where the last of the hills of Normandy reach the sea at Avranches, the visitor looks across the bay to Mont-Saint-Michel and its abbey, which together have withstood the tides for so long. At this point, so well known to the summer tourist, he is also looking across a cultural frontier, behind which lies the Celtic world of Brittany.

Brittany has indeed remained, over the centuries, a world apart, not only geographically through its isolation, but also through its links in the early centuries of the Christian era with Cornwall and the other Celtic lands beyond the narrow seas. Not that this is at once obvious when one enters the region, for Upper Brittany, the ante-room of the peninsula which is dominated by Rennes, displays many of the features found in the *bocage* of Normandy and Maine. There are the same grey-stone farms, built on the open-courtyard plan, the same apple trees and fields of cereals, the same dairy cattle. Rennes, ancient capital and university town, with its eighteenth-century buildings, is the centre of Upper Brittany. It is a town which has only very recently begun to grow industrially, thanks to the arrival of a branch of the car industry. On the estuary of the Rance, where French engineers have generated electricity by harnessing the power of the tides, there stands the old port of Saint-Malo, ringed with ramparts and remarkably well restored, while across the estuary is Dinard, a famous resort with luxury hotels.

But this is only the ante-room. Brittany of the Bretons lies further west, beyond the river Vilaine; indeed only in the extreme west does the Breton language, the *Breizh Ad*, hold its own against French. This is the region whose character makes it truly distinctive—a region of mild winters and cool summers, with rather brighter skies on the south-facing coasts than on the Channel side; a land of barren wastes, of gorse and heather, of poor soils underlain by granite, and bare, rocky ridges running in a double longitudinal line along the backbone of the peninsula. Brittany is the sole province of France



Breton farms are commonly built of granite—thick walled, with narrow window and thatch or slate roofs, and chimneys set in the gable-ends.

(apart from Vendée, its extension beyond the Loire) where, despite a steady migration from the land, there is still over-population in the rural areas. This is true of the *Argoal*, the interior plateau; it is even more so in the coastal strip, the *Armor*, where most of the life of the region unfolds.

The Bretons live in hamlets, each consisting of a few houses which are often grouped round one of the many picturesque chapels or Calvaries in which Brittany abounds. The houses are built of granite or of a sandstone which gives them a sombre appearance, relieved in the coastal settlements by white pargeting.

Thanks to the application of fertilisers and reclamation processes, Brittany's agriculture has made real progress in recent years. In the little fields behind their hedges or walls or earth-banks, buckwheat has been generally replaced by more valuable wheat. The two principal products are fodder crops and potatoes, while in particularly favoured sectors like the Pays de Leon and the outskirts of Brest and Lorient, market-gardening flourishes—early vegetables,

cauliflowers, artichokes, onions, strawberries. Pigs are raised in large numbers, and the little black Breton cattle, *the pies noires*, are excellent milkers, giving the region a large export of salted butter. But with all this agricultural output, Brittany suffers from one permanent and severe handicap: her farm holdings are very small and, no matter how hard the farmer-tenants work, many of these tiny holdings cannot be made to provide a livelihood. As an alternative occupation, fishing has come to play an essential part in the Breton economy. Especially in this true on the western and southern coasts where, although operations are hampered by inadequate capital and equipment, the fishing serves as a basis for a canning and pro-

cessing industry with plants in Douarnenez, Concarneau, Lorient and elsewhere.

This is far from being an easy coast to fish or even to navigate. It is jagged, with headlands that end in rocky reefs, lined with islands, some of them barren like Oucssant, others, like Belle He, green and fertile, yet others, like Sein, no more than reefs barely visible above the waves. Between these shoals and islands run treacherous currents and undertows, and the whole coast is battered by a constant succession of westerly gales. Such a coastline, of course, offers plenty of attractive scenery to the visitor, and there is a series of holiday resorts.



Motorised fishing boats at Camaret, on the tip of Finistere; the province's important tinned food industry is supplied from a number of small sardine fishing ports such as this.



But on this extreme tip of western Europe, linked only by long and inadequate communications with the main centres of population, no great port has grown up. Not even the splendid harbour and facilities of Brest, the Atlantic headquarters of the French navy for generations past, have been able to attract any great volume of transit trade. The town, badly damaged in 1944, is the largest in Brittany, but has recovered and developed its industries rather slowly in consequence of these disadvantages of its position. Lorient, first damaged by war and then abandoned as a naval base, has turned its attention to fishing. Quimper, by contrast, is the market centre for the prosperous district of Comouaillec, and manufactures preserves, paper and pottery. Saint-Brieuc has metal-working; Vannes is the market-town of the lowland at the head of the beautiful Bay of Morbihan.

The problems of Brittany are many: with uncertain markets for its products, and small industries which are all too often stagnating, it is a depressed area. The first and foremost requirement in this situation is certainly a regional plan.



Top right: The sea around Ouessant is made dangerous by jagged reefs and violent currents.

Right: The coasts of the Armorican Massif in Lower Normandy and Brittany are ragged and indented, strewn with reefs and rocky islets; shown here, Aber Wrach, on the point of Finistere.



France and the World

If we compare France with the other developed countries of the free world we find that, with the exception of the U.S.A., it is really the only nation which combines a high, twentieth-century standard of living with a living space which is nineteenth century in size and scale, and so is more than adequate for its present needs. Such a combination of circumstances admittedly increases the cost of upkeep, but it is, none the less, this combination that is largely responsible for giving France that delightful quality for which she is so justly famous. Not only does France lead the world in what might be called the arts of civilised leisure, but on a more mundane level she is spared many of the problems confronting her densely-populated neighbours. Now that the termination of the colonial era has shorn her of most of her overseas territories and responsibilities, France is in a position to concentrate her whole attention on the development of her own native resources. The French economy suffered a rude shock, however, from the revolutionary claims of May 1968, which, although checked politically, were socially victorious.

In terms of population, of course, France has lost importance in the past century: from fourth place among the nations of the world she has dropped to twelfth. But although today France contains only about 1.6 per cent of the world's population, her share in world production, consumption and trade is between 5 and 6 per cent. This overall figure covers a number of items for which France's share is still larger—for example, the production of wine, wheat, iron ore, bauxite, motor vehicles and luxury goods, and the provision of air transport. On the other hand, the French share falls below the level at other points, such as the provision of telecommunications, mileage of modern motorways, and the consumption of industrial energy per square mile of territory.

But today France's contribution should be judged not only on the world level but also within the more restricted circle of nations with which she has particularly close ties—the European Economic Community. In the years since it was founded, in 1958, the E.E.C. has provided a tremendous stimulus to the French economy. Within the Community, France accounts for a little over one-quarter of the population. In industrial terms, although she has made great

strides, her rate of expansion has been less remarkable than that of her partners, and her industries are generally overshadowed by those of West Germany. It is primarily as an agricultural nation and producer of foodstuffs that France makes her contribution to the Community, and this role of hers has increased in importance since the much discussed agricultural agreements among its members were eventually accepted in 1966. France owns between two-fifths and a half of the total cultivable area of the E.E.C., and is responsible for the production of about 40 per cent of the output of both cereals and livestock.

In the realm of material things, then, the statistics show the position of France to be generally favourable, though certainly not uniformly so. By contrast, in the world of thought the greatness of France is beyond question. Her irresistible attraction for men of culture is a compound of her great past, her artistic creativity and the charm and sparkle of her capital, Paris, whose pre-eminence is conceded even by her adversaries.

In a world committed, so it seems, to the principles of inter-dependence and the defence of the mammoth powers, France, with her own memories of past military greatness, retains a very strong consciousness of her individuality and prestige, a consciousness sharpened by the fiery trials of the past half-century. So we have the paradox of a country which, after the Second World War, boldly promoted the movement towards international programmes and the birth of the E.E.C.; yet which, under her present highly personal and authoritarian government, strengthened in 1968, has deliberately put off the day when community might be crowned with political integration, by rejecting every restriction upon her sovereignty, by limiting her treaty obligations, and by exalting the concept of the nation.

But there is another side to the French image. It is seen in the way in which she has succeeded in disengaging herself from her former African colonies without, in most cases, forfeiting their goodwill or their gratitude: most of these new states, formed from France's overseas territories, remain within the franc zone. It is seen, too, in the way in which, with a fine mixture of ready generosity and enlightened self-interest, France has frequently applied her historic principles of *liberie, egalite, fraternite* to the role of champion of the third force—the *Tiers Monde* of undeveloped, weaker nations which she regards as subordinated to, or oppressed by, the stronger.

Index

Referential to a photograph or a caption are given in *Italics*.

Adour 7, 95

Aig'oual (Mt) 92, 109, 109

A line 60, 63

Aix-en-Provence 91

Aix-les-Bains 85

Alacricio 91

Albi 90

Alencón 119

Alps 93

Altier 14, 78, 108, 108

Alps 10, 83, 91, 70, 84, 89

Alsace 7, 11, 19, 21, 28, 30, 32, 36, 43,

71, 72, 31, 39, 71, 72, 73

Amboise 14

Amiens 59, 62, 62

Angers 113, 117

Angoulême 117

Anfou 53, 111, 113

Anney 83, 85, 85

Aquitaine⁷, 12, 95, 96, 118

Archacón 38, 99

Ardennes 7, 30, 65, 65

Argon ne 62

Arige 100, 101

Arles 87

Armagnac 32, 96, 5

Armoricain Massif 7, 83, 111, 113, 116,

& 125

Arzas 48, 50

Artois 19, 30, 42, 48, 50

Aubusson 104, 104

Aude 93

Auge (Pays d') 119, 120

Aulin 78

Auvergnais 38, 95, 103, 107

Aveyron 106, 105

Avignon 20, 87, 92, 88

Basse (Pays) 100, 99

Bastia 91

Bastille (la) 114, 114

Bayonne 23, 28, 100

Beam 19, 24, 33, 43, 100

Beauce (la) 13, 24, 30, 59, 60

Beaujolais 75, 77, 80, 77

Beaune 77

Beauvais 59, 61, 62

Bell'ou 10, 75

Berre 38, 43, 90

Berry 24, 53, 111

Bégin 76

Belluise 42

Biczicz 93

Bistriřiv, 100

Blots 111, 113

Bordeaux 32, 98, 99, 98

Boulogne 38, 50, 31

Bourbonnais 30, 32, 33, 103, 106, 108

Bourg 77

Bourses 19, 111, 112

Bourget (le) 42

Bourgneuf (Bay of) 117

Bray (Pays de) 61

Bresse 76, 80, 80

Brest 123, 125

Brie 53, 63, 64

Briey 43, 67

Brittany 19, 24, 32, 33, 38, 43, 114, 123

Bz 124, 125, 28, 123

Burgundy 14, 19, 32, 65, 76, 33, 77, 1

Caen 119

Calais 38, 43

Calvados 119, 32

Camargue 80, 99, 88

Cambrail 48

Canal d'Alsace 39, 43, 72, 39, 70

Canal du Nord 49

Canigou 93

Cannes 91, 11, 90

Canal 106, 707

Caracassonne 93, 95, 93

Calmes 96

Cassagnes 33, 95, 106, 105, 107

Caux (Pays de) 32, 60

Cevennes 12, 32, 75, 81, 92, 95, 108

25, 109

Chalon-sur-Saone 77, 80

Chilons-sur-Marnac 63

Chambery 85

Chamonix 85

Champagne 14, 32, 34, 59, 63, 62, 64

Channel 119

Charente⁷, 15, 33, 115, 117, 77

Charleville 65

Charolais 33, 43, 73, 78-9

Chartres 59, 60, 59

Chartreuse (Grande) 81

Chateau-Gaillard 60, 17

Chiteauroux 80

Chateaurault 117

Cher 108, 111, 113

Cherbourg 38, 119

Cholet 113

Clermont-Ferrand 108

Colmar 12, 117

Colmar 14, 72

Compitgne 60

Corbal 58

Cornouailles 125

Corsica 19, 32, 35, 32

Cote d'Or 77, 77

Cotentin 120

Coventry 120, 122

Crau 90

Creusol (le) 78

Dauphine 19, 32, 81, 83

Deauville 119

Dieppe 38, 61

Dijon 77, 77

Dole 76

Donierre 43, 87, 11

Dordogne 43, 95, 104, 106, 104

Douai 48

Doubs 14, 75, 76

Dunkerque 28, 38, 43, 47, 49

Durance 43, 83, 85, 90

Duranc 43

Escaut 48

Estrel 10, 91, 11

Etréat 50

Eurc 60

Evreux 61

Fecamp 38, 61

Finistere 124, 125

Flanders 19, 24, 47, 49

Fiers 119

Fontainebleau 59

Forez 81, 103, 106, 108

Franche-Comte 19, 33, 34, 76

Gard 92, 103, 77

Garonne 7, 14, 95, 96, 98, 103, 98

Gascony 19, 32, 34, 98

Gatinais 108

Gave-de-Pau 43, 101

Gatinais (L. d') 81, 83

Gevaudan 100

Gironde 43, 115, 117

Grasse 93, 90

Grenoble 42, 85, 85

Grevaudais 85

Grise MH (Cap) 50

Gulf of Gascony 38

Guyenne 98

Hainaut 19, 47

Havr (le) 36, 38, 61, 61

Herault 43

Hercynium Massif 70, 8

Hyeres 43, 91

ile-de-ree 58, 62

Indre 117

here 43, 81

Jura 7, 10, 24, 33, 34, 75, 34, 76

Lacq43, 100

Landes 34, 95, 99, 35

Langues 10, 64, 77

Languedoc 19, 28, 32, 34, 38, 87, 92

96, 103, 11, V2

Lanternian 95

Laon 59, 17

Lauraguais 95, 95

Laval 114

Leans 42, 48, 36

Lien (Pays de) 103

Lille 47

Limagnc 2, 123, 108

Limoges 104

Limousin 33, 104, 35, 104, 105

liscieu 119

Loire 7, 14, 30, 78, 81, 103, 106, 108,

111, 115, 114, 14, 113

Lorraine 43, 67, 69

Lorient 123, 125

Lorraine 16, 19, 21, 28, 34, 42, 53, 65,

66, 71, 68, 69

Lot 80, 107

Lourdes 100, 29

Lyons 36, 43, 75, 77, 80, 81, 80

Mafnc 111, 113, 114

Mans (le) 114

Mars (le) 114

Mars (le) 114

Marenes 38

Marne 60, 63, 64, 65

Marseille 36, 38, 90, 91, 89

Massif Central 7, 24, 26, 28, 34, 42, 4

78, 93, 50, 117, 117, 116

Mauveug 36, 53

Maures 10, 91

Méruze 19, 53, 64, 65, 67, 65

Metz 19, 67, 69

Méruze 19, 53, 64, 65, 67, 65

Montauban 95

Montbéliard 20, 28, 36, 75

Mont Blanc 10, 83, 10

Mont-Dore 106, 707

Mont-Jimur 87

Montlison 108

Montpellier 93

Mont-Saint-Michel 123, 122

Morbihan 125

Morvan 24, 32, 53, 60, 78, 109, 79

Moselle 7, 39, 40, 53, 67, 70, 64

Mous 33, 108

Mulhouse 20, 43, 72

Nancy 67, 68

Nantes 114

Never⁷ 78

Nice 42, 91

Nivernais 78, 75-9

Nord 48, 51

Normandy 19, 33, 53, 59, 60, 114, 119,

26, 31

Oise 35, 60, 62

Orange 87

Orleans 30, 59, 60, 114

Orly 42, 40, 41

Orne 119, 121

Ouessant 124, 125

Palais Bourbon 21

Paris 36, 42, 83, 54, 54, 37, 58

Paris Basin 7, 26, 29, 34, 53, 67, 77, 19

Pas de Calais 42

Perche 51, 119, 120

Perigord 32, 34, 95, 96

Perigues 96

Perpignan 14, 93

Picardy 30, 50, 59, 62, 31, 62, 63

Pierrelatte 43, 87

Pointe du Raz 8

Poitiers 116, 117, 115

Poitou 7, 115, 116

Port du Gard 17

Préailles 15, 34, 75, 81

Provence 19, 32, 34, 83, 87, 11, 32, 89

Provins 64

Puy-de-Dôme 106, 107

Pyrenees-velay (le) 106, 108

Pyrenees 7, 93, 95, 100, 8, 93, 107

Quercy 32, 95, 106, 96

Quimper 125

Rance, 43, 123

Reims 59, 63

Rennes 123

Rhone 7, 10, 14, 19, 39, 70, 71, 39, 70

Rhone 10, 14, 43, 81, 87, 92, 11, 88

Rhone-Alps 36, 38, 80

Roanne 81

Rochefort 117

Rouen (le) 23, 31, 117, 116

Rouffort 33, 707

Roscoff 124

Rouenne 48

Rouen 36, 38, 39, 59, 60, 61, 61

Rouergues 95, 106, 705

Roussillon 19, 32, 93, 93

Saar 67, 36

Sables d'Olonne (les) 38, 116

St Etienne 125

St Jean-de-Luz 38, 99

Acknowledgments

The author and publishers wish to thank the following for permission to reproduce copyright illustrations:

Aeioport de Paris, p. 41

Archives du Touring-Club de France, pp. n.r., 105tr, 120l

Chambre de Commerce et d'Industrie de Boulogne, p. 51b

Charbonnages de France, pp. 36, 42

Compagnie Nationale d'Aménagement de la Région du Bas-Rhône et du Languedoc, p. g2r

Dassonville, pp. 26r, 78l

Direction Générale des Eaux et Forêts, p. 35tr

Documentation Française, pp. 31, 71l, 80l

Editions Cellard, pp. 15, 80b, 113l

Esso, pp. 8b, 9, 37, 57l, 97tl, 104l, 105b, 107tl, 108r, 117

Feher, pp. 25t, 89U, 109b

French Embassy, pp. 20c, 49b, 92l

French Government Tourist Office, pp. 5, 8tl, tr, lor, 1 i l, 17, 20l, 29, 32r, 33r, 35tl, b, 39, 40, 48, 49tr, 50, 54r, 55l, 57r, 58, 59, 61, 62, 64, 65, 68tl, b, 69, 70,

71r, 72, 73, 76, 77, 78r, 79, 80^{tr}: 84tc.bl.br, 88, Sgtr.tr.bl.br, 90, 93, 96l,c, 97tr.bl.br, 98, 99t, 101l, 104, 105U, 107tc.tr.b, 109t, 112, 113b, 1 14r, 115, 116

i23tl.tr, 124, 135, title-page

Henry Grant, p. 27b

Institut Géographique National, pp. iol, 3l

J. Allan Cash, pp. 14, 27tl.tr, 45, 55r, 84tr, 101r

Ministère Construction, pp. 25b, 4gtl, 51tl.tr, 99b, 108l, 114l, i20r

Ministère de l'Agriculture, pp. 32l, 33l,c, 34, 63, 68tr, 84tl, 123

Photothèque Française, p. 26l

Ray-Delvert, p. 96r

Syndicat de la Propriété Artistique (photo R. J. Pat^o), p. 12l

L. Viguir, p. 122b

b bottom t top l lift r right c centr

Maps and layout of text pages: James K. Hodgson

D Jean Dollfus 1969

Printed in Great Britain by Jarrold and Sons Ltd, Norwich

7195 1897 0 (students' edition)

7195 '898 9 (library edition)

