

4.- WALLOON REGIONS : MAN AND NATURE WITH LIMITED URBANIZATION

The rural regions of Wallonia, from middle to upper Belgium, hold varying landscapes and peoples on each side of the Sambre-Meuse axis. These are lands of vast openfields, fertile in the north, medium in the south, rugged in the Ardennes; only the bocage surrounding Herve is an exception to the open fields which unite generally confined villages with a countryside that has remained morphologically agricultural and forested in the south. The moderate urbanization is limited to the vil- laes, which is not to say that the ever limited industrial localizations or small towns are not found by rivers, these being their preferred sites. Nor does this mean that new infrastructures or small industrial parks aren't constructed there in conjunction with urban employment centres.

In contrast, the urban and industrial density of the axis that follows the valleys of the Haine, the Sambre, the Meuse and then turn toward the Vesdre, marked out from west to east by Mons, La Lou- vière, Charleroi, Namur, Huy, Liège, Verviers and Eupen. Laid out according to geographical logic along the valleys, originally for the coal underneath it, this true geographical region, born in the 19th century, presents an apparent disorder; this is due to intimate imbrication, firstly, of the large industries and mines of last century and secondly, of the workers' lodgings that adjoin them. This contempo- rary slackening leads to a peripheral urbanization which hasn't the extent of overflow as at Brussels into the Walloon Brabant and which doesn't render overly vague the limits of this completely inhabited re- gion.

4.1.- THE LOESS PLATEAUX : PROSPEROUS AGRICULTURE AND A SPARSELY-POPULATED CENTRAL AREA SURROUNDED BY URBAN REGION

4.1.1.- *The Hesbaye*

In this biophysical milieu with its varying conditions, it is the hesbaye and, more especially, the small area of the Dry Hesbaye of Liège, with its chalky subsoil, which epitomises the landscape of our open field agriculture. Cultivated since the Neolithic period, some three thousand years B.C., these lands are grouped around villages where the settlement is more or less clustered. These villages are very close to one another : from 1 to 2 or 3 km apart, and they form small and pleasant islands of verdure in a bare landscape. They are surrounded by a ring of paddocks and orchards, a ring which grew to its greatest width in the first half of the 20th century, and which today is dimi- nishing again with the simplification of the farmers' production proces- ses. Indeed, on these farms, which have grown over time to an average size of 100 ha, the cultivation of cereals - wheat and barley - and su- gar beet generally occupies more than 80 % of the land, in order to ob- tain the maximum return on the huge investment in machinery. Vegeta-

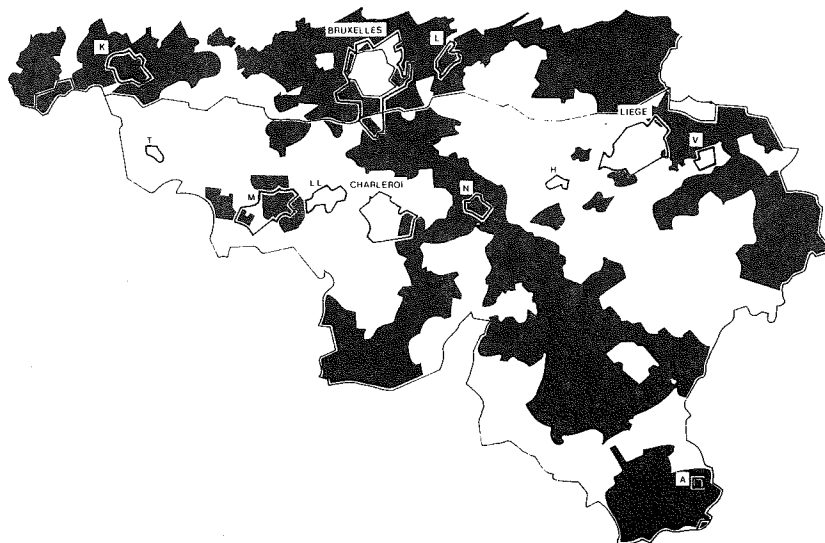


Fig. 13.- The demographic axis of Brussels-Namur-Arlon. The natural surplus of 1977-1984 makes this new axis of immigration of younger couples particularly obvious, equally indicated by a development in tertiary activities.

- 1. Positive balance 1977-1984
- 2. Limit of urban centres
- 3. National and regional limits on the region of Wallonia.

N.B. For Flanders, natural balance 1970-1980.

Source : A. GRILLI, Atlas des crises et dynamismes de l'espace rural wallon, cartes inédites, Séminaire de Géographie de l'Université de Liège, 1987, et V. SCHREURS, Een plattelandsatlas voor Vlaanderen, Leuven, Stichting Plattelandsbeleid V.Z.W., 1986.

bles for processing are produced under the same conditions. The farmers, whose numbers have fallen - to less than 5 % of the active population on the Liège edge; 20 % at the most - combine arable farming with the raising of fat stock where this has survived. This latter is based on by-products of the arable and on imported feeds, rather than depending on local grass : the cattle are raised loose in all or part of the vast barns and stables which have been created out of the old farm buildings with their traditional uses. These buildings are for the most part of brick, with tile roofs. Dating from long before the era of combine-harvesters, grain silos and simplified livestock raising, the farms which are still operating are most often the huge square Walloon courtyard farms, or *censes*, which were already the head-quarters of the largest farm units. They are also, in some cases, the buildings of medium-sized farms which have survived by being enlarged. With these truly historic buildings, often very fine structures, and some of which owe their origins to monastic or manorial land owners, it is no surprise to find that just about a half of all the region's agricultural buildings date from before 1919, with some representatives of the 19th, 18th, and even 17th centuries. Their adaptation for modern farming and their upkeep cannot fail to pose problems : one wants to avoid changing their character, yet their conservation is extremely costly.

The landscape impact of those farms which are still being operated is substantial, having regard to the massive character of their buildings, even though they represent, in numbers, only a few percent of the buildings in the villages. These latter are today essentially residential, housing urban workers who either have converted into farms the small homes which, at one time or another, have ceased to operate, or have restored and, in some cases, built non-farm housing. This is a tendency which becomes more pronounced the nearer one approaches to the urbanized areas around Liège and the industrial trench. It gives the villages an incongruous, patchwork appearance which is very striking, as is the modern, well-maintained look of their roads and services.

The rural landscape, in the hands of the few remaining farmers, is marked by evidence, at one and the same time, of its modernisation through land reform and of its antiquity. The broad gridiron of new roads, surfaced in concrete or asphalt, contrasts sharply with the star-shaped network of old roads focussed on villages where land reorganisation has not yet taken place. The field pattern itself loses its old character with the regrouping and rationalisation of holdings brought about by land reform. The old Roman roads, now often little more than country lanes, and the tumuli which mark grave sites of the same epoch, become objects of cultural value, but also appear as obstacles to modern ideas of productivity and progress. The sunken roads, cut down into the thick beds of loess, are the marks left by the passage of carts over the centuries; the slopes of their cuttings are often the only remnants of a truly natural landscape in the area - these and the small, wooded hunting preserves. Development and conservation alike demand the study and evaluation of these ecological relict areas, and the preparation of concerted plans for managing these sites.

Before (1958)



Farms	Area (ha)	Number of parcels		Average Area of parcels (ha)	
		Before	After	Before	After
1. DUMOULIN Fres	76	49	6	1,6	12,9
2. MIGNOLET, F.	48	38	4	1,3	12,2
3. LAMBERT, C.	41	13	5	1,0	8,2
4. PIER, J.	21	14	2	1,5	10,8

Source : Société Nationale Terrienne, Service Remembrement et Bonification foncière.

Fig. 14 Land Consolidation - Farms to Oleye (Hesbaye).

After (1963)



	<u>Before</u>	<u>After</u>	<u>%</u>
Total Area : 501 ha			
Parcels : number	544	144	- 74
Average area (ha) :	0,9	3,5	+278
Pieces of enclosed land	145	0	-100
Roads : 30 m/ha - New	2,3 km		
Modernized :	8,2 km		

Fig. 15 Land Consolidation - Farms to Oleye (Hesbaye).



Fig. 16.- Traditional appearance of a farm in the Hesbaye (Liers).
A good example of a Walloon "cense" with a square courtyard.
(Photo : Ch. Christians, 1965).

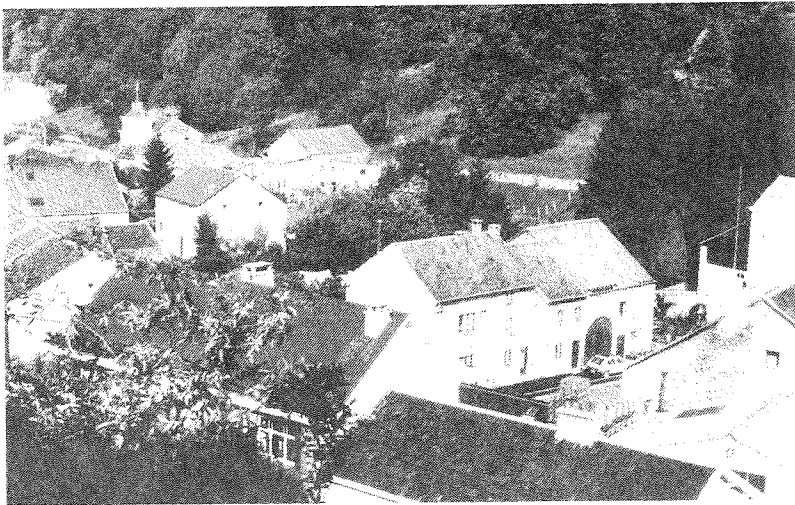


Fig. 17.- Traditional appearance of a village on the edge of the Condroz (Harzé).
Moderate construction in limestone occupies a well confined area.
(Photo : Ch. Christians, 1986).

The entirely man-modified character of these regions is further accentuated by a highly-developed infrastructure : a dense road network, two motorways, railways and, in the near future, a new high-speed rail route from Paris or London, through Brussels and Liège, to Germany. We need not repeat here any comment on the influence of these transport routes on urbanization - which in these regions is significant but limited, as we have already seen, by demographic factors, especially the long-standing negative rate of natural increase. Small towns are absent from the rich farmlands of the plateau. Waremmes, a dynamic centre, lies in the broad valley of the R. Geer, which is one of the few rivers of the Dry Hesbaye and which, in fact, forms its northern boundary. Agriculture-based industries are virtually absent from the plateau and the sugar refineries, now regrouped, are located in the same way around the perimeter of the region rather than within it - at Tirlemont, Oreye or Wanze. Overall, this richly-endowed region has a population density of about 100 per sq km, aside from the areas influenced by the growth of Liège.

Elsewhere in the Hesbaye, there are slight variations from the pattern described for the region north of Liège. On the northwest side, towards the small market towns of Hannut and Jodoigne, a pattern of agricultural predominance and sparse population asserts itself. On the southwest side, in the direction of Namur, grassland is showing some enlargement on the semi-humid loess (up to a quarter of the farmland), and here and there between the villages big, isolated Walloon *censures* bear witness to later clearances, interspersed as they are between earlier settlements: it is interesting to see, on these, the detailed influence of agricultural conditions marginally less favourable. In all these areas, population density falls to 30-80 per sq km for, on a national scale, these regions are somewhat remote from urban centres, as we have seen. Here Gembloux forms a small regional "capital" renowned for its agricultural institute (Th. Brulard).

4.1.2.- *The Brabant Region*

The Brabant Region, south of Brussels, is marked by the same character as the Hesbaye on its broad, undulating and loess-covered interfluvies - very large courtyard farms isolated between the villages, spaced further apart the more one moves towards the west. Around Nivelles, or the famous battlefield of Waterloo, this is typically a region of Belgium where one finds the highest proportion of large farms; 25-50 % of the land is in units of more than 100 ha. West of Nivelles, the villages are veritable nebulae; their buildings spread out to merge with the scatter of dispersed settlement in the countryside. At the approaches to the incised and tree-covered valleys, farming gives way to the peri-urbanization and 'rurbanization' of the fringes of Brussels: These latter processes have on the whole been selective of their areas of development, but have now begun to expand onto the plateaux, and so to come into conflict with farming. In the communes of this area, almost a half of all structures are post-1961 in date, and less than 5 % of the active population is in agriculture.

The valleys of the Dyle and the Senne, small in size but important in role, form long-standing corridors of industrialization, used since the 19th century by the railways and, in the case of the Senne, by the Brussels-Charleroi canal. Paper-making, even steel-making, metal goods and some branches of the textile industry are today interspersed with industrial estates adjoining motorways. There is, in particular, the industrial-scientific park associated, south of Wavre, with the new town of Louvain-La-Neuve and its Catholic university (a French-language institution which moved here from its 15th century site at Louvain, now wholly Flemish-speaking. Both universities lie at about 30 km from Brussels.) Nivelles, somewhat more isolated, has also benefitted by the presence of a motorway to add a new estate of diversified industries to its manufacturing activities. Thus there are two, or even three, industrial axes diverging out from Brussels towards Mons, Charleroi and Namur, and they help to explain the high level of activity within these areas, with densities of population of over 300, or even 500, per sq km, whereas on the agricultural lands of the plateaux the density is everywhere below 150.

4.1.3.- *The Hainaut Region*

The Hainaut Region, to the west, lacks unity. More, even, than Brabant, it is a collage of small regions. One can distinguish a zone of transition from Brabant, around Soignies; a region of central Hainaut around Ath; the Tournaisis region around Tournai; the 'high country' south of Mons and the industrial trench, and a southern Thudinie region, south of Thuin (R. Severin, M. Raucq, O. Tulippe): the variegated facies create more than fifteen separate landscapes (J.-Cl. Roucloux). High proportions of grassland (25-40 %), and medium-sized farm units (30-50 ha) characterise the sub-regions of Ath and Soignies; the Tournaisis, the 'high country' and the Thudinie sub-regions have more in common with the Hesbaye, in terms both of their output and their farm size (30-100 ha); the Soignies sub-region is distinguished by having experienced the least degree of ageing of its population, thanks to residential growth along the Brussels-Mons axis; rural exodus is most marked in the Tournaisis; dispersed settlement distinguishes the sub-regions of Tournai, Ath and Soignies, and makes their northern fringes comparable with settlement on the Flemish pattern. As another Flemish-style feature, there are a good number of lines of trees in the landscape.

The axis of the Haine depression and its wooded northern slopes are, once again, small worlds apart, lacking a loess cover. On one side, along the river, there is a veritable line of grassy polders, adjoining the great Walloon industrial zone, which has its beginnings here. On the other side, there is a rim of sandy-loess or sandy soils, where agricultural conditions are mediocre, and where the landscape is one of forest and even heathland, as around Casteau - it is Hainaut's own Campine, of which we have already spoken.

A few small towns, like Leuze with its textile industry, and Ath with its service functions, are the rather feeble contributors to population growth, and each possesses small industrial estates. But it is Tour-

nai, ancient capital of France before Paris took on that role, and now famous as a centre of carpet manufacture, which forms one of the two main urban nuclei. The other is Mouscron, a frontier town which lies within the orbit of the textile industries centred on Lille, the French metropolis across the border. Both of these Belgian towns are, however, peripheral to the region which they serve. A belt of denser population extends between the two towns along the line of the Escaut : densities here are between 150 and 300 per sq km, whereas the surrounding rural areas have, for the most part, 50-100.

We must not forget the part played in all the loess regions by quarrying operations, whether these are in the underlying chalk to feed the cement works along the lower Meuse below the rim of the Hesbaye, or in the porphyries of Quenast and Lessines, or in the limestones of Hainaut, which are either crushed or used for cement-making.

Nor must we forget the efforts that have been made to safeguard particular vestiges of the natural landscape - for even though these may have a somewhat artificial setting, they are flourishing - in small nature parks whose importance must be judged in relation to their man-made surroundings (e.g. the Burdinal Park in the Hesbaye; the Dyle Park of Brabant). A small amount of local tourism is generated wherever circumstances offer : in hilly terrain, or at places of cultural interest like the château and park of the princes of Ligne at Beloeil, or at the sites of particular technical achievements, such as the inclined plane at Ronquières, which enables traffic to overcome an awkward break of slope on the Brussels-Charleroi canal.

4.2.- THE PLATEAUX OF THE CONDROZ AND THEIR MARGINS : AN INTERMEDIATE REGION

All the regions we are considering here, although they belong to High Belgium, have in common some areas of good agricultural soils, based on the decomposition of underlying limestones; equally, they are all influenced more or less by the industrial region of the Haine-Sambre-Meuse valleys to the north. In all of them the population density is rather low - below 150 and, more often than not, below 80 per sq km. The Famenne, poorer and more remote is, however, in a class apart.

4.2.1.- *The Condroz : A harmonious, English-park landscape*

Upon the Condroz a finely-detailed human ecology has bestowed forms of land occupation in conformity with relief, aspect and subsoil, the whole having a southwest-northeast extension following the geological structure. Broadleaf woodland occupies the summits of the sandstone outcrops, or *tiges*, which are north-facing; the villages are aligned parallel with the ridges, on the south-facing slopes. The best arable land is found at the foot of the slopes, while ley pastures occupy the bottomlands, where clays overlie limestone and dry out late in spring, both in the valleys and on the slopes. Where aspect is locally favourable, the better lands are given over to wheat, barley and some areas of sugar beet; most of all, however, to fodder crops,

of which maize cut green accounts for 10-15 %. Wherever conditions are less favourable, pastureland predominates (45-65 % of the agricultural area); everywhere, the farmers' crop production is geared to livestock feeding. In practice, all the farmers keep cattle for dairying or meat production, although in this region, once again, they form only a small part of the working population - 7 to 20 %. As in the loess regions, the great Walloon courtyard farms, the *censes*, many of which have the appearances of fortresses, are the usual bases of operations of 50 to 100 ha and upwards. Here, as in the Hesbaye, it has been necessary to try to modernise these vast buildings, so unsuitable for contemporary use but, solidly built as they are of local sandstone or limestone, they threaten to stand for ever. Here in the Condroz, as in the Hesbaye, the same dilemma arises : how to adapt and conserve at the same time.

The region is marked by the twofold nature of its farm structure : there are small and, especially, medium-sized farms, as well as labourers' cottages in the villages with minute plots attached to them, and then there are very large farms, few in number and lying amidst their huge fields, in between the villages. Over and above these, one must also note the existence of castles and parks that are still owned by, and home to, an aristocracy - which normally owns the big *censes* as well. The Condroz possesses a number of archaeological remains from the Roman era which, although not impressive in size, are of considerable interest.

This rural landscape is deeply reorganized by consolidation since brings considerable parcel and road improvements to the scale economy of the big farms. This is especially true for the village territories marked by the ancient agrarian customs of the openfields while the isolated farms are surrounded by cultivated land in more or less block field pattern. The vegetable elements of the landscape, groups of trees, thickets, rows of coppice necessitate more than ever a landscape and ecological analysis more especially as they are often of high quality and are threatened by the parcel and road modernizations.

The Condroz villages are primarily residential, as regards 90-95 % of their housing, and this is especially the case in areas close to the Sambre-Meuse trench. More than half of all dwellings date from before 1919 - the end of World War I - 12-20 % are post-1960 and, close to the cities - Charleroi, Namur, Liège - these latter figures rise to 20-30 %. It is easy to understand how the traditional regional characteristics of these villages may be lost to sight in face of the in-migration of exurbanites drawn to homes in the Condroz. It is along the line of the Namur axis that one finds the demographic changes, brought about by renewed natural increase and in-migration, which we have already referred to in connection with the whole pathway of the route from Brussels and Wavre to Luxembourg.

Alongside farming in this region there developed a quarrying industry, working the sandstones and limestones, at least up until the crisis which overtook the industry more than 50 years ago. The quarries were located in the valleys, on the flanks of the hill masses, as



Fig. 18.- Scenery of the Condroz (Strée). The castle and its grounds are in the vicinity of the village, built on a light slope facing the south. The rich soil at the base of these slopes is good for farming.



Fig. 19.- Scenery in Pays de Herve (Charneux). The uneven relief is enlivened by relics of orchards; natural hedges became rare after their having been uprooted.
(Photo : Ch. Christians, 1984).

AFFECTATION DES SOLS (1978)

AFFECTATION DES SOLS (début du X^e siècle)

Fig. 20.- The evolution of natural hedges in the Pays de Herve. The case of Clermont-sur-Berwinne.
 (Source : Ch. CHRISTIANS & B. VAUCHEL, Clermont et son cadre, son environnement, in Clermont-sur-Berwinne (1230-1980), éd. Centre culturel de Clermont-Elsaute-Froidthier, 1981, pp. 503-526.

in the case of the Ourthe, Amblève, or Hoyoux valleys, or on the plateau surface itself, as in the extreme east of the region. The result was to create an industrial landscape in miniature. The workmen's homes in the adjacent villages are, today, occupied by urban commuters. Of other industries, nothing remains but memories - small rural enterprises connected with local resources, like the metal-working of the Condroz where it extends west of the Meuse. A few small industrial estates testify, once again, to the influence of the Brussels-Luxembourg transport route.

The landscape beauty of the Condroz can be compared with that of English parkland, with its harmonious alternation of woods and open, grassy spaces. The castles and their parks, as well as the big isolated farms, give diversity and interest to the whole. Attractive views are plentiful, and many of the villages retain their traditional and appealing character. Apart, however, from some of the valleys, there are few places to which tourists are drawn in large numbers, and fewer still that attract long-stay visitors. To find these latter, it is necessary to search the remarkable stretch of the Meuse past Dinant, or the picturesque valleys of the Ourthe and Amblève. Centres like Aywaille, or caves like those of Remouchamps, are small-scale poles of attraction. Elsewhere, second homes for city-dwellers have been built throughout the region or, more commonly, created by renovating old houses in the villages.

A rural world apart, the Condroz lacks any urban centre, except perhaps Ciney, its very small "capital". Dinant, on the Meuse, is an old city, full of the history of a brilliant past, renowned for its copper-working. Today, it is a tourist centre of some importance, which owes practically everything to its position on the Meuse, and little or nothing to the plateau lands that surround it.

4.2.2.- *The Pays de Herve : An exceptional area of field enclosure in the Walloon Region*

Lying between the R. Vesdre and the Meuse below Liège, the Pays de Herve, strictly defined, is the heart of a region of highly broken relief known as Etnre-Vesdre-et-Meuse. The soil, everywhere clayey and impermeable, has favoured the creation of rich pastures, which were formerly enclosed by a regular pattern of hedges, and which often supported orchards.

This land use pattern has formed the basis of intensive cattle-raising. Around the fringes of the region, land use is more varied, with productive orchards (many of which, however, have today disappeared) on the terrace levels of the western edge, with a continuation of a Hesbaye-type agriculture on the loess-covered terraces of the northwest, and with forest or pasture on the southern edge, nearer the valley of the Vesdre. Up until World War II, the Pays de Herve was characterised by small holdings of less than 10 ha, but which produced a very varied output : milk, butter, cheese, fruits, fruit syrups and pigs, the whole a series of interdependent, overlapping farm activities. The present-day economy is marked by simplified operations and

a reduction in this range of products, forced upon the farmers by competition from other parts of Belgium or of Europe. The list has been reduced to a single item : the production of milk on farms which have grown fewer but larger - for the most part between 10 and 30 ha.

The pasture-based economy was an early innovation of the Pays de Herve. It appeared there as early as the 16th century, and was accompanied by the establishment of farms by individual settlers, dispersed and enclosed on the wastes surrounding the nucleated villages with their open fields. In the process of time these villages dwindled away, and dispersed pasture farms took over what had been the cultivated lands. Such was the strength of this historic process that the whole region was converted into enclosed fields, or *bocage*, and individual operations replaced communal - two features quite exceptional within the Walloon Region. The ring of cities surrounding the Pays de Herve - Liège, Verviers, Maastricht - formed natural outlets for its livestock products. From the 18th century onwards, the influence of the Herve farming type made itself felt further and further afield, spreading like an oil slick to adjacent regions, such as the northeastern Ardennes.

The region was for long an integrated rural island whose agricultural prosperity was supplemented, up until the 19th century, by domestic industries for which work was provided by the towns and the industrialized valley of the Vesdre : arms-making in Liège, nail-making in the Vesdre valley, textiles in Verviers. Later came coal-mining around Liège.

With its dense and tortuous network of country roads leading to its scattered farms, the Pays de Herve has always been difficult to serve by public transport, with the result that it has only lately been opened up for 'rurbanization' by the population of Liège to the west, or of Aachen in West Germany, 50 km east of Liège. 20-30 % of housing thus dates from after 1970, the non-farm workforce constitutes virtually 95 % of all employment - including that of the exurbanites - and the healthy demographic pattern of the area depends as much on immigration as on positive natural increase. Growth of travel by car and the opening of the motorways to Germany have brought in a new era of urbanization in the Pays, taking over the torch of regional development from an agriculture whose light is in process of being quenched. The role of 'urban residential park' foreseen for the region by the planners as long ago as 1963 is in slow process of fulfilment, even though population densities still do not exceed 130 per sq km in most parts (E. Parent). The attractiveness of the region is as much a product of the relief of its surface and the bosky character of its fields and woods as it is of the architectural quality of its houses and farms, a reflection of past prosperity.

Herve, in the centre of the region, Battice and Aubel grew up as well-known markets for cattle and butter. Today, it is rather the industrial estates of Battice and Petit-Rechain, alongside the motorways, which are the focus of economic activity.

The reshaping of the landscape is seen in the removal of many of the hedges, and this, following upon the clearance of the orchards, leaves the surface bare and open. Maintaining the hedges is too costly of labour : in any case, they get in the way of a new and larger field layout. These are technical problems, but which have important ecological implications. On the other hand, the beautiful sight of the orchards in blossom was something which, in the past, drew tourists to the area during those brief, fleeting days of spring.

4.2.3.- *A Patchwork of Regions : The Ardennes Condroz, the Marlagne, the Fagne and the Famenne*

The Ardennes Condroz and the Marlagne (which is its westward extension) border the Condroz on the margin nearest to the Sambre-Meuse valley. They represent the northern, and much thinner, edge of the great synclinorium, within which occur the folds of the Condroz, and whose broader southern edge corresponds to the depression of the Famenne and Fagne, as well as the first foothills of the Ardennes. The name of the region evokes precisely its character, since there are combined here Ardennes conditions in those areas where humid loess soils play no part in improving the land and where, consequently, forest prevails; on the other hand, the agricultural patterns of the Condroz in the areas where the plateau surface is smoothest and the loessial soils are drier. Associated with this region are the highly contrasted areas of the Pays d'Acoz and the lands which overlook the Sambre and the Meuse between Charleroi and Namur. Lithology and relief differentiate here the landscapes formed on limestone and on coal-measure sandstone.

On the southern side of the Condroz, it is the Famenne which extends eastwards from the Meuse at Givet, as far as the Ourthe at Hamoir, whereas it is the Fagne which stretches west of Givet, in the region known as Entre-Sambre-et-Meuse. Lean soils and poor drainage in the infertile shale 'gutter' make of the Famenne and Fagne a realm of natural grassland and, today, of planted grasses (65-85% of the farmland); of thin forests also, generally coniferous and composed of pines and spruce. The limestone areas have only developed better soils, and are only under cultivation, where they form wide, level surfaces; elsewhere, they are under grass or a cover of bushes or rather sickly forest. A kind of in-between region, the Famenne/Fagne generally shares in both the agricultural poverty of the Ardennes and also the agrarian and settlement patterns of the Condroz. Holdings are often quite large, principally in the category 30-100 ha.

Even though more than four-fifths of its workforce are in non-agricultural occupations, the Famenne nevertheless lies outside the regions of morphological urbanization. Its density of population is generally below 50 per sq km; frequently as low as 30. Population change is limited to the small growth pole of industry and modern services of Marche-en-Famenne, which combines Marche, Jemelle and Rochefort, and lies on the Brussels-Namur-Luxembourg axis. This latter crosses the depression diagonally. For all the possibilities of longitudinal movement *along* the depression, no major routeway has developed in this direction.

The history of human occupation enables us to distinguish clearly between that of the limestone surfaces, settled in very early times, and that of the shaly, forested sections, settled both in mediaeval times, from the 12th century on, and also in more recent times - the 19th and early 20th centuries - in the region of Chimay (O. Tulippe). Besides the present absence of industrial activity, except for a few quarries working the limestone and 'marble', history reveals that there was formerly a time when iron-smelting and metal-working flourished in the rural Famenne : the industries were based, as in the neighbouring Condroz, on local resources of water, wood and iron ore. But they all disappeared in the 19th century (apart from some remnants in the Couvin area), leaving behind in the villages traces of the workers' dwellings and workshops. Place-names, too, recall these activities - as, for example, in the Famenne, with the village of Ferrières, which takes its name from its iron workings.

The impact of natural conditions makes itself felt, again, in the older buildings of the region which, in a land of stone, are stone-built only in the limestone areas. Elsewhere, they are of brick : the local shales are not resistant enough for use in construction. Then again, the limestone areas contain important karstic features : the famous grottoes of Han are a tourist attraction on a continental scale, and form a touristic 'honeypot'. The middle sections of the transverse valley, which we have already noted further north in the Condroz, are also favoured tourist areas, especially that of the Ourthe around Durbuy and Barvaux, which contains many second homes. In the Fagne, the lake of Virelles - formerly used to supply water to the iron industry - is a recreational area where ecological protection is the objective, while the modern dam and the lakes of the R. Heure are giving rise to provisions for a mass tourism quite different in scale and nature. On the whole, however, tourism in this region is based on an interest in nature and landscape. Conservationist interest focusses particularly on the grassy limestone areas, and there is a project for a regional nature park in the valley of the Viroin.

4.3.- THE ARDENNES PLATEAUX : STUBBORN NATURE AND SPARSE POPULATION

At first sight, one would not expect that the moderate altitude and relief of the Ardennes would create so harsh a climate, given the region's relative proximity to the sea. But on the scale of things Belgian, this is a challenging environment which has been utilised in various ways over past centuries, and it is a region that refuse to die. The Ardennes form the heart of a zone recognised as one of Europe's disadvantaged regions : it bases its hopes for the future both on an integrated regional development plan instigated by the E.E.C., and on local schemes for rural renewal. These latter, of course, exist elsewhere in Walloon Belgium, but here they are a matter of life and death. Everywhere in the region population density is less than 50 - often less than 30 - per sq km.



Fig. 21.- Scenery of the north-eastern Ardenne (La Gleize). Woods and prairies share the space between them; trees and bushes as well as natural hedges define the limits to there parcels of exploitation.

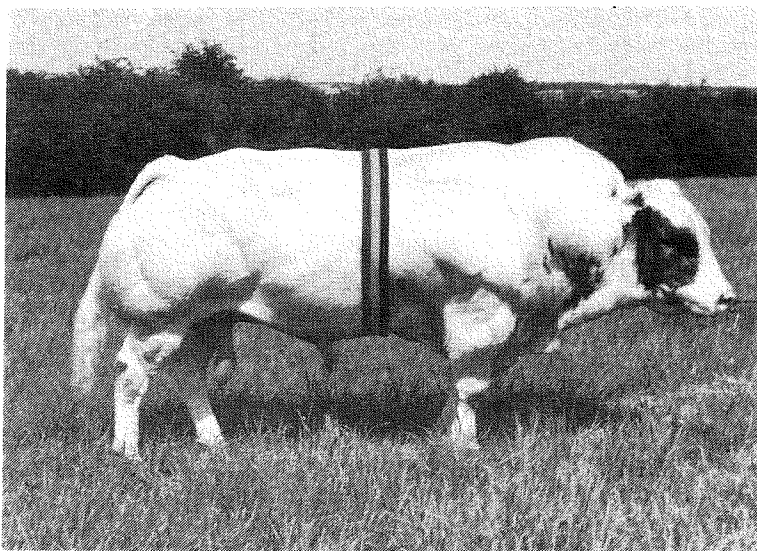


Fig. 22.- The bovine breed "Blanc-Bleu-Belge", very common in the Walloon Region, is the result of patient breeding. Currently, its exceptionally high slaughtering yield (up to 73 %) makes it, by a comfortable margin, the number one breed.

4.3.1.- *The Northeastern Ardennes : valleys, forests, grassland and tourists*

The pattern and density of the streams flowing down off the eastern High Ardennes and the small plateau of Tailles make one realise the degree of dissection of the surface. One can say, without too great a margin of error, that most of the region's forests are associated with the steep slopes : they are in this sense topographical and pedological in location, for it is on the slopes that skeletal, stony soils have developed. In all, forests occupy a third to a half of the surface area.

Grassland is the other main user of the Ardennes soils, expressing as it does a concentration on dairy farming on the model of the nearby Pays de Herve. This region was the first to be affected by the expansion of pasture land that followed the cereals crisis at the end of the 19th century, and it is an interesting facet of regional geography. The small farm units, usually nearer to 5 ha than to 10, were another factor favouring the expansion of grass-and-dairy farming, for it meant that labour was relatively light, at least by contrast with that in the non-mechanised arable farming of the period, and it also meant that there was a steady cash income to the farmer. But this is the High Ardennes region : there was no question of planting orchards, or time to develop a tradition of fodder crops, as in the Pays de Herve. Even commercial pig-raising proved to be only a temporary phase. The agricultural productivity of the Pays de Herve could not be reproduced here.

The open rural landscapes, a legacy of past cultivation, still possess their small villages and clustered hamlets, while the filed patterns evolved spontaneously as an adaptation to new farming conditions. The holdings to which grassland farming spread first were enclosed by hedges, and the later enclosures by wire fences. Evolution continues with, today, an enlargement of holdings to 10-30 ha. But the great variety of relief and soils stands in the way of a consolidation of holdings. The future is gloomy, with less than 20 % of farms assured of a successor to take over from the present occupant.

From a demographic point of view, the region is also a mixture. The general trend is unfavourable, even though out-migration is no longer everywhere dominant. The infrastructure possessed by the villages is, alas, inadequate even though the quality of maintenance, especially of roads, is exemplary. The two motorways which have just been opened through the region will serve as vitalising arteries, whether it be the Liège-Luxembourg motorway - part of the key Amsterdam-Milan route - or that from Liège to Prüm, which leads on to Koblenz and the Rhine.

With 10 to 20 % of their labour force in agriculture, the small villages, now basically residential, are almost all full of second homes, either newly-built or old houses renovated. The area of greatest concentration is along the Ourthe, around Durbuy and Barvaux, and in the valleys of the Amblève and the Aisne. Other lodgings are provided by caravan sites and camp grounds. Spa, 'the pearl of the Ardennes', built its reputation on its mineral springs : in the 18th and 19th centuries it was patronised by European royalty. Today, socialised medi-

cine and health schemes provide a new dimension to its activities. Good hotels, a casino, music and drama festivals, and a surround of magnificent forest parks provide as many attractions for summer vacationers as they do for day visitors. Popular recreational and relaxational centres such as Coo; the motor-racing circuit at Francorchamps; ski runs like those at La Gleize : these are some of the region's other drawing cards. It possesses one of the most valuable 'veins' of tourist wealth in the Ardennes, whose overall appeal is, however, still that of its rural scenery, and it is that which has induced the build-up of modern facilities.

Lacking in industry, if not in activities linked with the works of wood, the northeastern Ardennes are equally short of urban centres. Apart from Spa, the only ones worthy of mention are the two historic towns of Malmedy and Stavelot. They nestle at the foot of the eastern High Ardennes, and were once the twin seats of an ecclesiastical principality under the *Ancien Régime*, before the French Revolution of 1789. In addition, Malmedy was a small centre of the tanning and paper-making industries, located here for the tannin from local oak bark, and the quality of water in the R. Warche, a tributary of the Amblève.

4.3.2.- *The High Ardennes and the Hautes Fagnes : An exceptional natural environment and a harsh region for man*

Above 550 or 600 m, the relatively level surface of the High Ardennes combines a wide zone of peat bogs, or peat-covered areas, on the highest levels with agricultural lands on the slightly lower surfaces.

The peat bogs of the Hautes Fagnes, of great ecological value and biological interest, have been widely drained and afforested with spruce from the 19th century onwards, to such an extent that today there are only some 4,000 ha remaining. These remainders have been constituted a nature reserve, whose attractive scenery excites the attention of artist and tourist alike, and whose boreal vegetation arouses the curiosity of scientists - who can profit by the existence of a research station set up there by the University of Liège.

This nature reserve is now integrated with the larger Hautes Fagnes-Eifel nature park (Eifel is the name which the Ardennes assume on the east, or German, side of the international boundary). Covering 72,000 ha, the park was formally constituted in 1985, after having been officially operating already since 1971, in close cooperation with the adjoining German park. With its heritage of landscape beauty, and its great interest for geographers and biologists, the park should be a point of attraction and stop-over for the millions of Europeans who live in the great industrial and urban regions which surround it, both in Belgium and in its neighbour countries. Nature conservation; environmental protection and preservation of water quality; land use planning, and an economic development in keeping with the aims of the park : all these are expressions of a complex policy which has to be conducted within the territory of the 12 communes covered by the park. Family holidays, nature outings and skiing - up until now concentrated, alas, within the reserve - are all drawing cards for the area. Other attractions are the lakes and dams of Butgenbach, Robertville, Eupen and La Gileppe, and the valley of the R. Our.

Almost the whole of the High Ardennes lies within Belgium's German-speaking area, whose individuality is very clear : a population density close to the upper regional limit of 50 per sq km; a positive natural increase, but also sustained out-migration; a land still strongly agricultural, with farmers forming up to 30 % of the village populations; houses and farm buildings frequently of recent construction, not simply because of damage during the closing phases of World War II, but also because of specific local efforts that have led to a figure of 30-40 % or more of post-1962 buildings within the area; an agriculture organised in exemplary fashion, despite the small size of the grass-and-dairying operations, which seldom exceed 20 ha. In sum, a pattern of human occupation quite different from that of adjoining Walloon areas of the Ardennes.

4.3.3.- *The Central Ardennes : Plateau agriculture, bordering forests, and tourism*

This central section of the Ardennes is, in the first instance, the area of the central plateaux, which are given over more to farming than to forest, with grass occupying a little over half of the farmland. The farm units, larger than in the northeast (20-50 ha), are further from the core area of pasture farming in the Pays de Herve; they have the benefit of better soils and flatter surfaces, which permits the raising of fodder crops to play an important part. In the same way, livestock-raising is also important, either of cattle for beef or of calves fed at the udder. Such is the plateau country around Bastogne, or Neufchâteau and Libramont. It is the region which, in the whole of Belgium, has remained the most truly agricultural and, in terms of its farming, the most homogeneous. 22-30 % of the workforce are in farming. But the future is just as uncertain as it is for the farms of the northeastern Ardennes. Land reform offers a palliative of sorts.

The rural landscape derives from the period of the large Roman villas, which were laid out in the Ardennes wherever the plateau surface appeared the least discouraging. Thereafter, it evolved more or less slowly, developing a group settlement pattern of villages and open fields. Following upon the increase in population in the 19th century, and the law of 1847 on bringing waste land into use - the same applies everywhere in the Ardennes, including the northeast - the wide rings of moorland sheep pastures which surrounded the settlements' in-fields were put to productive use, either by being brought under the plough or by afforestation with spruce (trees with a rapid growth rate and a wide-open market, at that time, as pit props for the mines). Today, then, we have a landscape whose most recent features are less than a century and a half old, and which is still evolving before our eyes.

The Ardennes plateaux also form a region where the villages, poorly equipped as service centres, have to fall back on the small towns - which may be more than 10 km away - for their very basic requirements, particularly for shopping. This is a region of emigration and of net out-migration, in spite of a positive natural increase. The density of population is generally below 30 per sq km.

Bastogne has become a tourist centre, by virtue of its role during the battles of World War II, when it was encircled in December, 1944. Like the other small towns of the plateau, it is also a service centre in which recent industrial development has been very limited. Libramont appears to have benefitted more than Bastogne from its position as a crossroads town.

The forest border which delimits the central Ardennes on the west and south is, like that of the northeast, a product of topographic and soil controls. Today, the deep valleys and their slopes have become tourist areas, while on the level surfaces there is an agriculture which resembles that of the central plateaux and which, like it, faces an uncertain future. It is worth noting that the big masses of forest plantations, while their contribution to the landscape is by no means negligible, are nevertheless only really attractive around their edges.

La Roche and Houffalize in the upper valley of the Ourthe, and Bouillon in the Semois valley, are small but active holiday centres. One must add that, since the 19th century, this region has lost all its industrial activities, such as the iron-working and metallurgy which formerly existed here for the same reasons as they did in the Fagne and in the Condroz west of the Meuse. Among many others, the old forges at Pont d'Oye, on the Lorraine edge of the Ardennes, are worth a visit, and the St-Michel furnace, which is well-preserved, recalls the proximity of the Abbey of St-Hubert which established it.

The central Ardennes plateaux and borderland are, today, opened up by lines of communication, notably by the two motorways, running from Brussels and from Liège, to which several references have already been made. But all that has still been insufficient to make their economy blossom, though active rural renovation is being undertaken, particularly around Bastogne.

The marginalisation of farming and the fall in population have reduced the number of active farmers below the threshold necessary to keep land in productive use. Small patches of woodland recolonise the parcels of abandoned holdings, and the extreme scatter of these parcels creates a problem. More intensive plantings of Christmas trees are now being developed, while some of the land is fallowed. This wave of abandonment has spread over the area, starting in the southwest of the central Ardennes, where it began between the two world wars. In the years since 1945 the trend has accelerated and, quite recently, a new wave has clearly begun from the original starting-point, the area most remote from lines of easy communication. This demonstrates, once again, the impact of accessibility upon regional modelling. At the same time the Ardennes farms, decimated by competition from other areas, have left behind them modest but interesting sandstone houses which themselves were the successors, more or less early in the 19th century, of much poorer thatched cottages. That is not to say that there is a total absence of those big, solidly-built farms which we have encountered elsewhere. But many of the Ardennes' second homes were once small farms.

4.4.- BELGIAN LORRAINE : RICH POTENTIALITIES

South of the Ardennes, Belgian Lorraine has characteristics much more attractive to human activity. The good land of Lorraine, formerly known for its rich harvests, occupies the whole south of the region. The central plateau is the poorest part, on account of its soils - which are largely sandy - and it is mostly forested. The low-lying areas are floored with marls and clays, and suited to pastures. These distinctions, however, are whittled away by the all-conquering, simplifying advance of pasture and livestock-raising.

Attracted away to work in the steel industry of Athus - which, however, disappeared a score of years ago - or those of the French and Luxembourg steel regions nearby, the peasant farmers of Lorraine created a more extensive regional agriculture. The enlargement of farm units since World War II has been spectacular, and today's sizes are in the range of 30 to 50 ha. It must be added, however, that greater size does not guarantee inheritance : only 10-25 % of the farms have a successor to the present operator in view. It is necessary to recall the years of the 19th century, when the agriculture of Lorraine was among the most advanced in all Walloon Belgium with, among other things, a specialisation in potatoes from Florenville.

With 4-12 % of the workforce in agriculture, the region is manifestly characterised by a functional urbanisation which is already of long standing, and which has been linked with the steel industry, and with the cross-border movements associated with it. The steel industry itself is based on the abundant iron ore of the Jurassic scarplands, and the influence of natural conditions has thus been important. Today, however, the cross-border movement has switched to workers employed in the numerous banks established in Luxembourg City, some 20 km from the Belgian frontier, banks which have made the Grand Duchy an active financial centre within the E.E.C. The successive stimuli of these non-agricultural activities across the frontier have brought with them a movement of young families to the countryside, without halting the immigration movement. The modest infill of the villages by new construction is something readily apparent in the region.

Small industrial estates, the paper pulp plant at Harnoncourt and, in particular, the European industrial development pole which is situated on the Franco-Belgian frontier : these express, at least, a will for renewal and real European integration.

Disinterest in farming, however, gives an opposite impression, and the presence of a good deal of reforestation recalls to us the landscapes of the Ardennes already described. In the north of the region, the remains of old forge sites remind us of the by no means negligible spread of the old iron industry in High Belgium prior to the 19th century.

Belgian Lorraine can be divided into the area around Arlon in the east, a Luxembourgish-speaking district along the frontier of the Grand Duchy and, in the west, a region called the Gaume, Walloon

Lorraine, where a Romance dialect is or was spoken. This division has induced some interesting cultural differences, even though today the French language covers both areas. As an example, the influence of French Lorraine is seen in the street-village settlement form of the Gaume region, particularly in the southwest, along the French frontier. By contrast, the layout of the villages increasingly leads to a break-up in the alignment of the houses and increasingly interrupts the street form towards the northeast; that is, on the frontier of the Grand Duchy. Everywhere, however, the legacy of the open fields is found in its most typical form in all the Walloon Region.

Fertile country as it is, Belgian Lorraine experienced intensive activity during the Gallo-Roman era, the more so because access to the region from the south is very easy, at least as far north as the southern forest barrier of the Ardennes. Arlon, the provincial capital, is a town which takes pride in its Roman origins.

4.5.- THE URBAN AND INDUSTRIAL AXIS IN WALLONIA OF THE HAINE-SAMBRE-MEUSE-VESDRE : A CHANGING REALITY

From the French border, west of Mons, until Metropolitan Liège, "Over a distance of 150 km nature retreats at the hand of the factory : large black mounds, useless remains of coal mines, metal frames on vents, factory buildings, steel fireplaces, uncountable railway tracks, rivers or canals, forgotten streets and roads. Man is present everywhere and in his work and habitat : endless groupings of simple homes are bunched together, stretched out or randomly placed between the factories and train stations. They assault the slopes of the rural countryside. In some larger centres with urban appearances, regional activity crystallizes... One often finds open spaces as fallow land or meadows or under cultivation and a good many houses have small gardens" (J. Tilmont, 1946). At the end of World War II, this region still had an image of intense activity but was feeling the effects of its age, having been born in the 19th century.

Formed of basins that were more independent than complementary, truly in competition, the Walloon axis was still at that point relying on the coal mining region of Borinage near the Haine and to Mons, on the four areas of heavy industry and coal mining of the Centre (La Louvière), Charleroi, the Basse-Sambre and Liège, on the textile centre at Verviers, and on the small industrial centre of Eupen as well on the city of Namur, with a less industrial appearance. Multiple industries accompanied these powerful branches : metal construction everywhere, edge ceramics in Borinage, rail material, glassworks, finer glassware in the Centre, diverse constructions, industrial, chemical and glass-works at Charleroi, non-ferrous metallurgy, chemical, rubber, larger electric machines, armoury and crystal-works at Liège.

Based on the prestigious traditions of iron and coal, Charleroi and Liège adopted early on the most advanced technics. Coal was exploited as early as the 12th century and, in 1830, the Walloon basin was producing 2.5 million tonnes - 7th rank in world production. Charleroi adopted coke in 1827 and inherited the iron tradition from its

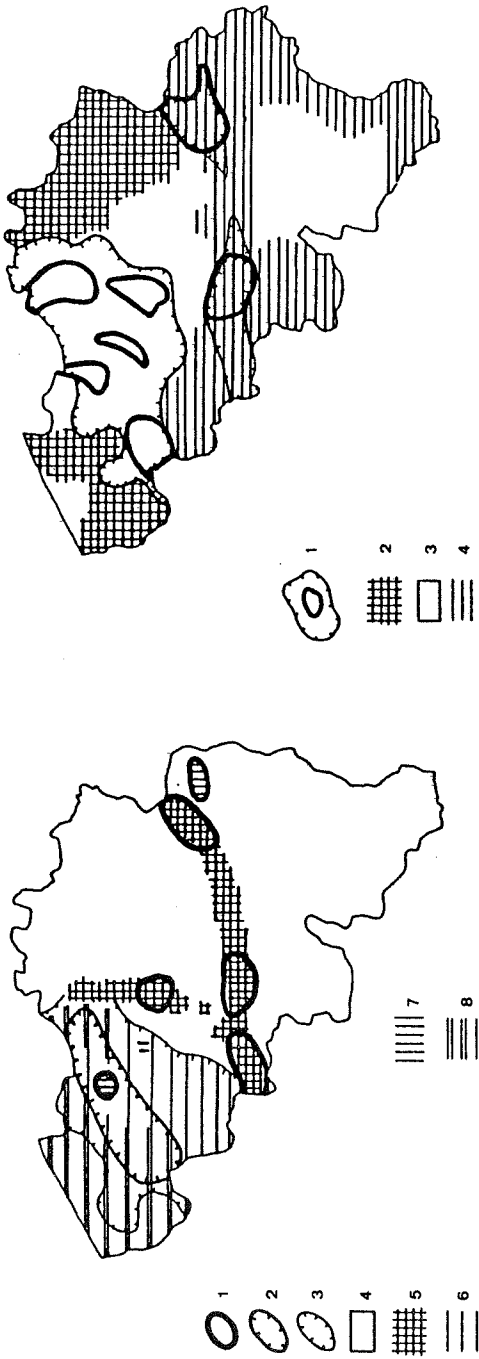


Fig. 23 A and B.- Industry development.

Source : C. VANDERMOTTEN, La Wallonie dans la crise, temps longs et lectures, Cartes 3 et 4, 1984.

neighbour, Entre-Sambre-et-Meuse. Liège installed its first blast furnaces in 1828 and took the relay from the older furnaces in the woods in the district of Franchimont, in the Near Ardenne, which was functioning even in the 15th century; Liège also was trading zinc as early as 1810. In the 19th century, Wallonia was, after the Ruhr, the first industrial region of the continent, Great Britain excepted.

Today, the coal mines have all closed, even though in 1946 they were expected to still be producing even after the year 2000 : their short lifetime was caused by heavy production in the fifties due to declined competitiveness in turn caused by poor geological conditions in the deposits. Metallurgy paid its tribute to restructurizations due to world over-production : employment has dropped, being faced by modernized equipment (at Liège, for example, the metal industry's 78,000 workers in 1960 dropped to a mere, 41,000 in 1984). The textile industry in Verviers has disappeared due to a general decline in the European branch. In general, the obsolescence of these enterprises can be related to the crisis that they suffered during one third of a century : two world wars, the crash of '30, the rumours of war from 1936 on, overall the period from 1914 to 1945. The innovations and diversifications that since have been attempted cannot balance the factory closings, the loss of jobs or the economic slide in Wallonia.

The Walloon axis is therefore a region in difficulty. The consistency of the axis, due to the former dispersal of its factories and mines, is being divided up into distinct industrial centres which are being renovated. The industrial valleys are left to the hands of planners to reorganize the network of habitat and industry of the 19th century : the ageing of these areas is materialized by urban waste land, closed industrial lands and the territories of abandoned coal mines. New industries that bind them together are punctually set up in industrial parks and zones generally situated along the Walloon autoroute, which is the new backbone of the region of Wallonia, several kilometres north of the old industrial axis; some zones are still installed along local waterways (such as Baudour in Hainaut or Chertal at Liège). The infrastructures are therefore the key to the future, not only the network of highways but also the canals of 2000 tonnes European gauge - the Charleroi-Brussels-Antwerp Canal and the Albert Canal from Liège to Antwerp - the waterways have constructed a semi-maritime region. The new residential suburbs surround the old working centres.

In all, the Walloon network still takes form on the land, by its urbanized space, but the residential continuum is now the major unifying factor. It is explained both by the population density and by the occupation of the built up land. The longitudinal communication links, east-west, from Mons to Liège (and beyond from Tournai to Eupen) today are excellent : the previously mentioned Walloon autoroute, the Liège-Mouscron railway, the waterways. However, they still don't allow great movements. The road, rail and telephone traffic are still transversal, essentially toward Brussels, a major tertiary centre that, more than ever, receives a large portion of the area's output. The inter-basinal fusion of the quasi totality of iron and steel enterprises in Wallonia in the Cockerill-Sambre Group (Liège and Hainaut) was not successful in generating the structuration of the industrial groups into one geographic region, leaving it separated as on the tertiary and urban plans.

If Charleroi and La Louvière are cities entirely dependent on industry, where the tertiary services are a necessary complement, on the other hand Liège, Namur or Mons are cities with a long historical past which preceded their industrial explosion in the 19th century. Traditionally at the head of their medieval fief, they are now the chief-towns of their respective provinces. Namur is also the administrative capital of the region of Wallonia. Liège can pride itself on having been the capital of an almost totally independent episcopal principality for eight centuries, from 980 to 1789, at which point it asked to join the French First Republic, since Charlemagne was born in its outskirts in the 8th century. Tournai is an urban jewel. The development of tertiary activities is taking over from industry with relative success.

Most of the industrial workforce is made up of foreigners, mainly from the Mediterranean area. This poses a major problem in consideration of unemployment, given the large percentage of unemployment in the domestic population. Economic recovery is the item of debate and technical rationalization tops the agenda.