

3.- FLANDERS

DENSE POPULATION AND WIDESPREAD URBANIZATION

With 419 inhabitants per square kilometre (1983) Flanders is one of the most densely populated areas of Europe. Within the different provinces population distribution is uneven, giving a density of 300 in Limburg and of 550 in Antwerp. It forms a sharp contrast with the population density of 192 in the Walloon region.

The urbanization process, accelerated from the 1960s, has led not only to an expansion of the urban fringes but as much to the extension of the built-up areas of the village-centres and the accentuation of the already existing dispersed settlement. In fact the urbanization process cannot be seen as a development of urban centres but as a spreading out over the numerous villages of what originally was urban elements. No longer the countryside of Flanders can be approached as a spatial and social reality. Just as for the city regions a more differentiated approach is necessary taking into account the different forms of rurality.

In Flanders the urbanisation process, together with the conduct of agricultural policy in the E.E.C., has transformed the countryside both functionally and morphologically. Statistical approaches to the urbanization process, based on employment and commuters, accentuate too much the functional aspect, so that almost the whole countryside of Flanders is regarded as urbanized. If we look at the scenery, however, a mosaic of landscapes still reflects the physical base, and large areas remain morphologically rural. This does not mean that inventory, listing and appropriate management of the traditional landscape are not urgently needed. Its historic components are indeed fading away at an accelerating pace, and they require the same attention and care as historical monuments in towns.

3.1.- THE LITTORAL : FROM DUNES TO CONCRETE

Before World War II, the coastal strip was characterised by built-up areas separated by dune massifs, but from 1947 onwards the beach front was transformed into an almost continuous wall of concrete. This process coincided with the transition from a residential form of tourism confined to the upper classes to a mass tourism based on apartment-building. At the same time, on the landward side of the dune area another form of mass tourism was developing, with the creation of vast camping- and caravanning- grounds, sometimes stretching inland as far as the Polders. Two thirds of the nights spent in hotels and boarding houses in Belgium are registered on the coast. In the coastal municipalities Belgians account for 87 % of the bednights. During the summer period the peaks are reached at the weekends by day visitors leading to a congestion of the access roads. Since 1970, well-equipped holiday villages have also been built (e.g. Ysermonde at Nieuwpoort), and recently the tourist infrastructure has been further extended by building recreation parks (e.g. at Ostend).



Fig. 1.- THE BELGIAN COAST. The extension of the built up area between 1911 and 1982. Extended dune massifs remained intact till World War II. After the explosion of the coastal tourism the dune rea was lost definitively. New residential quarters, apartment, buildings, campings, holiday centers, recreation parcs, the harbour of Zeebrugge and other soil consuming infra-structures conquered the coast. (C. VERMEERSCH, 1985).

Only a few dune areas remain untouched. The two most important natural relict areas, the "Westhoek" and the "Zwin", are situated near the French and the Dutch borders respectively. In between, some listed dune relicts form suitable areas for the withdrawal of drinking water. As a result of these withdrawals, problems of salinization occur, and the ecological equilibrium of the vegetation in the dune patches is disturbed. Sea fishing formed the basis of the prosperity of Ostend and Nieuwpoort in medieval times. Nowadays Ostend is the first fishing port considering the weight of fish landed (56 % in 1981), followed by Zeebrugge (40 %). When taking into account the value of fish landed, then Zeebrugge comes on the first place (65 %) followed by Ostend (24 %). Since the 1950s there has been a steady reduction in the size of the fleet, the numbers employed and the weight of the catch. A census of 1981 gives 193 vessels, shared between Zeebrugge, Ostend and Nieuwpoort, 894 persons employed and a total catch of 40,500 ton. The fishing of Iceland waters has almost ceased and the hering catch and in-shore fishing are diminishing. Zeebrugge as a port on the busy North Sea is centrally situated in relation to the well-equipped ports of Rotterdam, Dunkirk and London. A sheltered open outer harbour has been constructed recently for the import of petroleum and liquified natural gas and for the development of container facilities and Ro-Ro services. A sea lock for ships of up 125,000 tons deadweight gives access to the inner harbour which provides sites for waterside industries. The Boudewijn canal, connects the inner harbour with the industrial estate of Bruges.

3.2.- THE POLDERS OF THE COASTAL PLAIN : AN AGRICULTURAL DISTRICT WITH TOURISTIC POSSIBILITIES

The extremely flat plain and the open scenery are striking aspects of the landscape. Isolated farmsteads and church towers form the vertical elements, together with rows of poplars along some canals (Bruges-Damme-Sluis), but the poplars are more frequent on the dykes in the polders of Zeeland and the Scheldt.

Marine deposits, most mediaeval in age, give fertile soils where agriculture is primarily arable farming (cereals and industrial crops), and cattle-breeding is normally of secondary importance. The fields have been largely reshaped by the re-allotment process, so that farmers can cope with the present-day demands of Common market agriculture. Unfortunately these re-allotments have damaged heavily the historical components of the landscape. By egalisation works the soil archive is spoiled completely. The polders have been able to preserve their rural appearance, as illustrated by the villages of Houtave, Lampernisse, and many others. Population density is rather low (less than 250 inhabitants per km²) in comparison with the rest of Flanders. The mixed arable-livestock holdings have an average area of 15 ha. The farm succession is favourable in opposition with the other parts of Flanders. The large farmsteads show an open courtyard with separated buildings, sometimes surrounded by a ditch filled with water. Some of these farmsteads have an impressive entrance building connected by an alley with the local road. Nowadays, some farms try to combine agricultural activities with some form of tourism. Although this combination

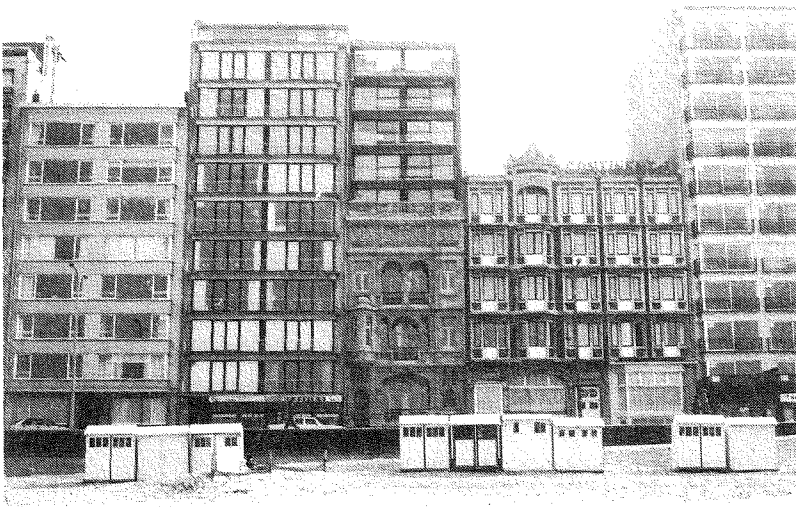


Fig. 2.- Concern about monuments at the coast. "Belle-époque" villa buried under apartment buildings.
Middelkerke-littoral, front side of the Villa Cogels.
(Photo : Peter Somers, Monumenten en Landschappen, 1982).



Fig. 3.- Farmstead in the Polders (Schore near the Yser-river). A combination of agricultural and tourist activities.
(Photo : L.R.G.L., 1988).

seems attractive it is, in reality, difficult to achieve : either the tourist activities are successful and the agriculture is abandoned, or vice versa.

Apart from farming, this region offers numerous amenities such as a visit to the remains of the mediaeval abbeys that played an important part in the reclamation process (Ter Duinen at Koksijde and Ter Doest at Lissewege), and to the historical town centres of Furnes and Damme.

The western part of the coastal plain is scarred by the E40 motorway ending, for the present, at Furnes. The connection of this road with Dunkirk and Calais endangers the area of special landscape value listed as "the French-Belgian Moeren". Deterioration of this landscape is unavoidable, because of concessions already granted for sand extraction.

3.3.- THE LOWLANDS WEST OF THE SCHELDT

This area coincides with the central part of the former County of Flanders. Its urban development in mediaeval times made of it one of the leading counties of Western Europe. Together with Brabant, it was for centuries a pioneer area of agricultural progress : numerous agricultural innovations were tried out there, as many travellers' records testify. On the eve of the industrial revolution, the countryside was cultivated like a garden by a dense population, and home industry (linen) helped the peasants to survive. Although many socio-economic changes took place from the end of the 18th century onwards, the landscape preserved its traditional character until the middle of the 20th century. From 1950 onwards, things altered drastically with the growth of urban fringes, the installation of industries and the modernisation of agriculture.

The old industrial centres along the valley of the Lys between Ghent and Courtray were linked, forming a continuous urbanized and industrialised axis, accentuated today by the E17 motorway (Antwerp-Lille). From Courtray through Roeselare, to Bruges and also, but to a lesser extent, from Bruges, via Eeklo, to Ghent, an axis of commerce, services and industries has also developed. In between, the area of Tielt, although functionally urbanized, has been largely able to remain morphologically rural. The remoteness - according to Belgian standards - of the "Westhoek" (Ypres-Poperinge) makes that area one of the least favoured in Flanders : a lack of employment, resulting in emigration, and an ageing population, together with a decline in services in the small village centres, have made of this area a socio-economic problem region.

To provide some idea of the relations still existing between the physical environment and the landscape scenery, and also to illustrate the impact of recent transformations, some examples will be given.



Fig. 4.- Present day appearance of the Bulskampveld. The former fringes of woodland are converted in arable land. Also when the forest plantation is cleared the original pattern of alleys is preserved. (Photo : L.R.G.L., 1988).



Fig. 5.- Environment of Aalter : urbanization of the country-side; building estates and industrial development. (Photo : L.R.G.L., 1988).

3.3.1.- *The wooded area of sandy Flanders : Reclaimed Wastelands*

A large part of the area between Bruges, Eeklo and Ghent was covered until the end of the 18th century by wasteland as a result of the slight and extensive use of its unproductive soils (Eocene sands and clays). In late mediaeval times some attempts at reclamation were carried out without, however, much success, due to the marginal character of the soils. In the second half of the 18th century, a process of afforestation began, which was promoted by the Austria régime. Large areas of waste were parcelled out in rectangular or square blocks, and planted with deciduous and, in the 19th century, pine forest. The blocks were separated from each other by open rides, to facilitate the maintenance of the plantations.

By the end of the 19th century, the use of fertilizers had begun the reclamation of the pine forest. The reclamation took account, however, not only of the rational block pattern of the afforestation plan but also preserved the rides. The result is a specific landscape of cultivated land, dominated by oak and beech glades, and associated with blocks of residual pine forest.

The poor quality of the soils and the specialisation of E.E.C. agriculture have produced a farming which is not tied to the soil, and which is reflected by grain elevators beside new buildings for cattle and pig breeding. Because of the intermixture of forest and cultivated land bordered by glades of trees, the area has a park-like aspect which is augmented by several country houses of the 19th century, often in ornamental style. With this landscape the area has recreational possibilities which are partially, but insufficiently, exploited. A lot of villas are stagnant, or even show some decline, with the exception of those having connections with the Brussels-Ostend axis, whether by way of a railway station or by access to the motorway. This is the case with Aalter and Beernem, which have developed as residential areas for commuters.

3.3.2.- *The Meetjesland : Bereft of Its Character*

The name "Meetjesland" refers to the large regular blocks (Middle-Dutch : *maten* or *meten*) in which the land was allocated, in the 13th century, as a result of systematic, large-scale reclamation of poorly-drained soils in the area of Eeklo (B. Augustyn, 1987). These blocks were parcelled out into long strips (with a breadth : length ratio of 1 : 11), each separated by a ditch for drainage. Coppices and pollarded trees planted along these ditches created a peculiar hedged country that was preserved intact until the mechanisation and scaling-up of agriculture. Through combination of strips and by infill of ditches (mostly without formal re-allotment arrangements but by the action of individual farmers), a process of denudation took place, resulting in an almost hedgeless area. Only poplar rows along local roads, where landowners retain planting rights, have been able to withstand this process of laying bare the countryside.

Despite agricultural modernisation, the Meetjesland cannot compete with the very specialised farming in the rest of Flanders. Large



Fig. 6.- Drastic change of the landscape scenery. The situation of the field pattern and hedges in a part of the "Meetjesland" in 1911 and in 1967. The removal of hedgerows and the junction of strips in the Meetjesland, North of Eeklo. (N.G.I., 1911, 1967).

parts are not only functionally but also morphologically urbanized as, for example, around the industrial zone of the Ghent-Terneuzen canal, and around the small centre of Eeklo, where the rural landscape is affected by the spread of new housing estates, and by the transformation of farm houses into residences for commuters.

3.3.3.- *The Waasland*

The Waasland is the area situated west of Antwerp over the Scheldt-river and bordered in the North by the marine deposits of the Scheldt-polders, in the West by the Flemish Valley, here coinciding with the outcropping of Oligocene clay and in the South by the Scheldt and his confluent the Durme-river.

This area forms a distinctive geographical region by his soil condition, topography and the convex shape of the fields bordered by poplar rows creating a landscape transparency. The latter is threatened by mechanization of agriculture and re-allotment projects. There are different hypotheses about the origin of the convex shaped fields. The most plausible are the following ones :

- firstly this specific shape is due to the plowing method consisting of a plowing starting at the edges of the field and moving spirally towards the centre;
- second hypothesis sees the origin of the convex shaped fields as a result of the digging out of calcareous sandy loam from the surrounding field ditches. This material was spread out over the field as a fertilizer. The Waasland also was subjected the last decennia to strong transformations as well morphologically as functionally. The town of Sint-Niklaas was increasing strongly but also the villages and hamlets show nowadays differently. Transformation of existing buildings and heteroclite new building of cottages and bungalows are transforming now the former rural settlement patterns. The area with loamy soils and the alluvial valleys resisted better to this degradation. The percentage of population active in agriculture was in 1950 15 % but decreased since then strongly. A traditional artisanal activity, the clog-making, has disappeared completely. An enormous village-green (a donation of the Count of Flanders in 1248) became the market place of Sint-Niklaas, the biggest one of Flanders. Already in the 18th century the town became an important textile (wool) centre. In the first quarter of the 19th century several new industries arose and Sint-Niklaas became the second (after Ghent) import industrial center of East-Flanders. The town now has the function of a regional centre. The demographic evolution followed the industrial expansion but after 1968 a decline started as resulted of the emigration into the surrounding villages.

3.4. - THE VALLEY OF THE LYS RIVER

From the French-Belgian state border at Comines to the city of Ghent, the Lys river is crossing different geographical regions. In the south, Flanders sandy loam region and near Ghent, the sandy region.

Although different physical subdivisions may be recognized inside the valley, the socio-economical criteria are dominant and creating the own identity of "the Golden river". The importance of the river as a traffic artery with an actual economic significance is going back till the Middle Ages. From Artesia grain was shipped towards Ghent, the most important market place, due to staple-rights on the grain. From the 15th century on the valley of the Lys became economically important by the expansion of the flax cultivation. The culminating point is reached in the first part of the 16th Century; numerous line market places are founded along the Lys (Deinze Courtray, Menen and Wervik). Courtray became famous for his damast-linen and other, less expensive textile products were exported via Antwerp towards Spain, and from there till America. The international high appreciation for the flax of the Lys region and the excellent water quality for the ret-process gave birth to the name "Golden River". Along 80 km, between Comines and the lock near Deinze, prosperous flax villages developed during the flax-leydays. In 1913 more than 120,000 tons of flax were retted in the river, giving employment to 13,000 workers. The artificial retting caused the loss of the monopoly of the Lys region, and from 1925 no more water from the Lys was used. The presence of water always, and especially during the former times, played an important role as location factor for the industries. Upon the old maps, on which in a detailed way the course and the valley of the Lys river is depicted, on can find the mentioning of lime-kilns, bleacheries, brick-yards, and water mills.

Only after 1900, the industrialization of Courtray developed fully. Especially, the period of the years 1920 and the years after World War II, provided most of the present days industries. A strong diversification of industrial activities could be noted, with textile as the major characteristic of the Courtray region. The degree of industrialization is high and mostly located in the Lys Valley. Textile is followed by the metal works.

The urban agglomeration of Ghent occupies the fourth place under the Belgian cities. The old city center is more and more depopulating. Since World War II, a shift in the activities could be observed. In 1947, the city still possessed an industrial character, 60 % of the active population was working in the secondary sector and in 1980 51.5 % was active in the tertiary sector. Textile, once the most important industrial activity of the town, was declining strongly, from 24 % of the active population in 1947 to 8 % in 1970. The metallurgical industry gained in importance and became the most important branch of industry. The chemical industry (fertilizers, plastics, petrochemy) occupies the third place. The most competing concerns are situated in the area of the Ghent-Terneuzen canal. Since the completion in 1968 of the new sea-lock at Terneuzen, on the Wester Scheldt, and the construction of the ring-canal around Ghent, the goods traffic increased sharply; bulk cargos (oars, grains and coals) predominate. The facilities of the Ghent harbour and the need of some industries for access to the sea have led Ghent to attract, among other industries, an integrated steel works and a car assembly plant. Ghent is also an international famed center for horticulture, specialized in the cultivation of azaleas, begonias and hothouse plants.

3.5.- THE HORTICULTURE AREAS

Horticulture is strongly concentrated in the central part of Flanders, inside the triangle Antwerp-Brussels-Ghent. The most important area coincides with a strip extending from Antwerp over Brussels till the linguistic border near Overijsse.

In fact, it is a junction of different cultivations : greenhouses for vegetables at the South of Antwerp, cultivation in open air and under glass in the neighbourhood of Malines and open air cultivation South of Malines, in the direction of Brussels. The periphery of the Brussels agglomeration is well known for market gardening : Belgian andives on farms at the North of Brussels and grape cultures in greenhouses at the South-East of Brussels (Hoeilaart, Overijsse).

The Ghent agglomeration also forms an important production centre, especially at the East of the town, where ornamental plants are dominating in open air or in greenhouses. More to the east (Wetteren) the most important centre of tree-nursery is located. Apart from the triangle Antwerp-Brussels-Ghent, there is the Eastern part of the Hageland and Southern Limburg (direction of Hesbaye) where emphasis is laid upon fruit cultivation. Isolated from the large areas of horticulture, the area around the auction centre of Roeselare (West-Flanders) is pointed at the cultivation of vegetables.

Some horticulture specialities are strongly influencing the landscape scenery :

- *The greenhouses*, nowadays partly abandoned, of Hoeilaart-Overijsse, form a unique glass landscape.
This grape cultivation was one of the most important centres of the continent, comprising about 400 ha, more than 30,000 greenhouses exploited by about 4,000 cultivators.
- *The cultivation of ornamental plants*. Especially in the Ghent-region, located upon the sandy, well drained soils upon a substratum characterized by an important water storage capacity.
The cultivation of the Azalea is of prime importance. The annual production is estimated on 30,000,000 plants of which more than 80 % is exported. Roses, begonia's and numerous other species are grown with a big success. Since 1908, each five year a flower fair, "Ghent-Floralia" is organized and which is considered as one of the most important in the world.
- *The fruit cultivation* is occupying half of the horticulture surface. The apple orchards take 1/3 of the total area.
The production also is important and reaches more than 25,000 ton. The soil and the microclimatic conditions in the Hesbaye are very suited for this kind of cultivation and allow the production of high quality fruits.

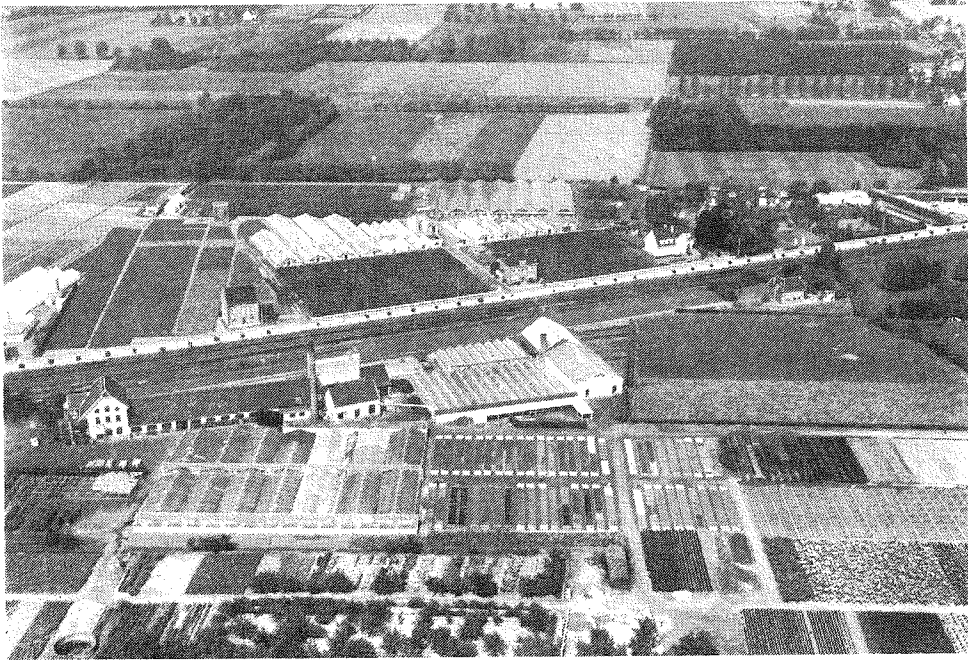


Fig. 7.- Glass houses in the neighbourhood of Ghent (De Pinte).
(Photo : Aero Survey).



Fig. 8.- Colliery of Beringen. Administrative building.
(Photo : L.R.G.L., 1988).

3.6.- THE CAMPINE OR KEMPEN : A FULLY TRANSFORMED REGION FACING DISLOCATIONS

The Campine region extends eastwards for about 100 km, from the reclaimed polders around the Scheldt estuary to the steep slope overlooking the valley of the lower Meuse River. It represents the southern part of a continuous sandy area, of which Noord-Brabant in the Netherlands forms the northern part. The Campine cannot be compared with the sandy region of Flanders, not only because of the more marginal character of the Campine sands, but also because of its peripheral position, resulting in a political and socio-economic time lag over several centuries. In mediaeval times, the western part belonged to the Duchy of Brabant; the eastern part to the Prince-Bishopric of Liège, and the northern part was integrated after 1648 with the newly-founded, Protestant, United Provinces.

Until the end of the 18th century, the Campine formed a world apart : an agrarian society succeeded in gaining a livelihood by means of a balanced ecosystem, using the heathland to keep up the soil fertility of the fields. From mediaeval times on, the so-called "plaggen" system made possible rye growing without crop rotation or fallow. It was based on sods cut in the heathland and brought into the byres or folds : after enrichment with manure they were spread on the fields. Because some sand was always picked up with the sods, the fields gradually grew in height and a thick humic topsoil was built up (by more or less 1 mm a year).

Population growth made necessary a search for activities outside agriculture. Besides some small-scale, but diversified, manufacturing in small towns, a textile industry based on home work developed in the countryside. In the northeastern part of the Campine, between Balen and Hamont, the migrant trade companies of the "Teuten" wandered about from spring to autumn. From about 1500 onwards, they handled many types of goods (textiles, metal goods, farm products; even hair for perukes) all over Western Europe, and were renowned for their skills with sick animals. The port of Antwerp with its hinterland enabled some people to make a living driving horse-drawn vehicles between Antwerp and Cologne or Hesse. Besides this west-east transit traffic, a north-south route between Liège and 's Hertogenbosch was also set up - along the oldest paved road of the eastern Campine (Liège-Hasselt-Lommel, 1788), marked by toll-gates (barrières) at fixed distance apart.

From the second half of the 18th century onwards, everything changed dramatically. A policy aimed at the reclamation of wastelands was introduced by the Austrian authorities, and carried on by the Belgian reclamation laws of 1849. It resulted in a large-scale transformation of heathland into pine forest. The construction of the Meuse-Scheldt canal not only gave the Campine an opening for traffic but also allowed for the irrigation of large areas of heathland, now converted into meadows. The "plaggen" system retreated with the diminishing heathland area, and with the arrival of guano and fertilizers. Surprisingly, the Campine agriculture did not expand. The arable area, including the enclosed meadows, stabilized during the 19th century, and even decreased after World War II.

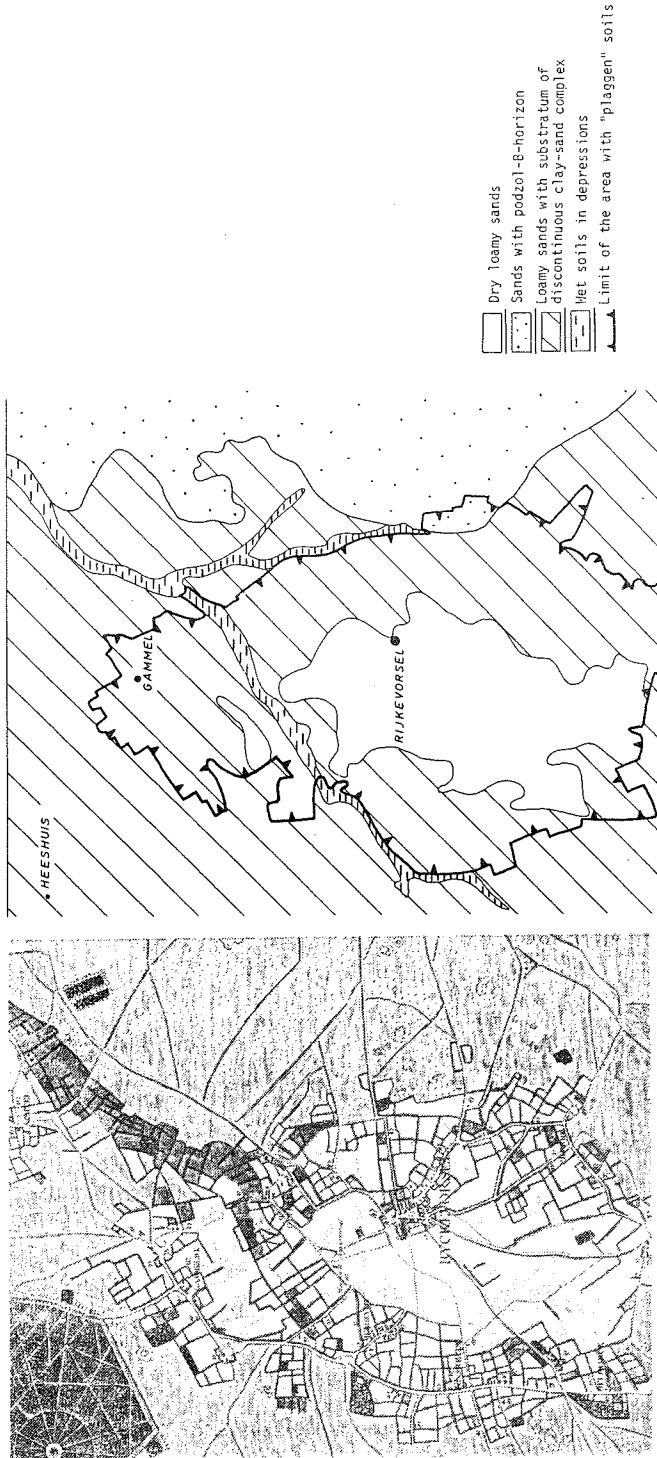


Fig. 9.- An example of the traditional Campine. The different components are an open field associated with the village centre and located upon well drained soils. Around this a belt enclosed field is occurring, on less well drained, resulting from a late reclamation. The total cultivated area is surrounded by an area of heathland, producing the sods for the "plaggen" system.
 (Ferraris map, 1775 - Rijksvorsel - Royal Library of Belgium).
 (simplified soil map : Verhoeve A., 1980).

Since then, a radical renovation has occurred within the framework of E.E.C. policy. Agricultural specialisation in drylot cattle-breeding and poultry developed. The remaining heathland, characterised by a predominance of heather (for centuries the most striking aspect of the Campine) has receded drastically, to less than 10 % of the communes' surface. This fact is related not only to the plantation of pine forest but also to urban and industrial expansion.

The industrialisation of the Campine took place in three phases :

(i) The first important industrial establishments date from the years 1880 to 1905. Non-ferrous metal and chemical plants were deliberately located in the vast and empty areas of the Campine, where there was space enough to limit the effects of industrial air-pollution. The dangers arising from soil and water pollution were at that time not fully understood. But there was also a further reason for locating new industries in the Campine : the price of the land needed for factory sites was low.

Further factors provided the new industry with the necessary élan : an undemanding population (no trade unions; low wage levels), and an excellent infrastructure of canals, railways and roads linking the industrial Campine, via the port of Antwerp, with overseas markets.

(ii) André Dumont struck the first Campine coal around 1900. Due to serious problems of exploitation (shifting sands), and war conditions between 1914 and 1918, the Campine coal industry came into full production only after World War I. During the years 1970-80, the five mines (Eisden, Winterslag, Waterschei, Zolder and Beringen, with a total work force of 19,000) attained an annual production of 6 million tons. The "black gold" of the Campine was used in coking plants and power stations. As a producer of industrial coal, the Campine field remained devoid of steel works and hydro-carbon plants, a phenomenon unique in Western Europe. Other industries had a take-off. The glass-industry came to development based on the white sands of Mol. The vicinity of the world leading town for polished diamonds, Antwerpen, made the southern Kempen to a centre of diamond industry.

(iii) The third industrial development phase started in the 1960s. By state policy, industrial parks were created. Measures were taken to attract new industries (expansion laws). With a low level of wages and the youngest population pyramid in all Belgium, the Campine acted as a magnet for new industrial establishments. An attractive climate for investment brought into the Campine European as well as American multinationals. Construction (Genk) and assembly (Geel) of motor cars, electro-technical plants (Geel, Lommel, Tessenderlo), and a petro-chemical industry were able to provide relief for an over-supplied labour market. With this industrial development, the Campine undoubtedly rose to a culminating point of prosperity. New working-class houses along asphalt-paved roads resulted in an accentuation of the linear settlements interspersed between the older centres. On the other hand, new housing estates introduced a clearer and more justifiable type of urbanisation. The regional centres are situated at the periphery of the Kempen :

Antwerp, Malines, Hasselt. Typical Campinian towns are Turnhout (textile, printing works) and the new town of Genk (61,000 inh.) developed in association with the former collieries of Zwartberg, Waterschei and Winterslag.

With the oil crisis there began for the Campine a period of economic recession. One of the most striking effects has been the high level of unemployment among young people. It will be very difficult to improve employment in such a way that it can absorb the increase in the labour force. Another problem is the future of the Campine collieries. By contrast with South Limburg in the Netherlands, where the last colliery was closed as early as 1966, the collieries in the Campine remain state-aided, working at a loss. To save expenses, the national government recently decided to close down the pits in the eastern part of the coalfield. Only the mines at Beringen and Zolder will remain temporarily in operation. The shut-down of the coalfield is leading the Campine towards an economic reconversion. There is an urgent need for new employment, and occupational resettlement of the former miners. A policy is needed in the near future, too, for the setting up of high-tech industries and for the development of the tertiary sector.

The Campine, with its pine forests and ponds, still offers a variety of amenities. If the infrastructure for one-day tourism was quite well developed (open-air museums at Bokrijk and Essen, and numerous small museums and attractions located all over the Campine), then there was a shortage of facilities for residential tourism. The recently-established, luxurious and self-contained holiday resorts at Peer and Lommel are fully booked the year around, and are bearing witness that, for week and weekend stays, still more can be done. In coming years, more of these projects will be completed in Mol, Beringen and Houthalen.

The Campine, often seen as the "Far East" or Flanders, is keeping its identity clear. Numerous aspects of the physical and human environment differentiate it from the rest of Flanders. One of the most striking features is the natural population growth, the highest in Belgium. Between 1975 and 1984, the active population rose by 19 %, compared with 5 % for Belgium as a whole. The economic development of the past century was spectacular. From a situation of great poverty the Campine reached a position of great promise. Its prospects have been dislocated by the closure of the collieries, creating a situation even more difficult than that in the rest of the Flemish Region. Unemployment now reaches its highest level in the Campine. How the race between the creation of new employment and the growth in active population will end remains an open question.

3.7.- ANTWERP , THE MOST IMPORTANT PORT OF FLANDERS

At the end of the 15th century, with the silting of the tidal channel, called the Zwin, by which Bruges was connected with the sea, Antwerp grew out to an outstanding city and enjoyed a fabulous prosperity (from 50,000 inhabitants around 1500 till 100,000 in 1568). After the treaty of Westfalen (1648), however, the port was cut off

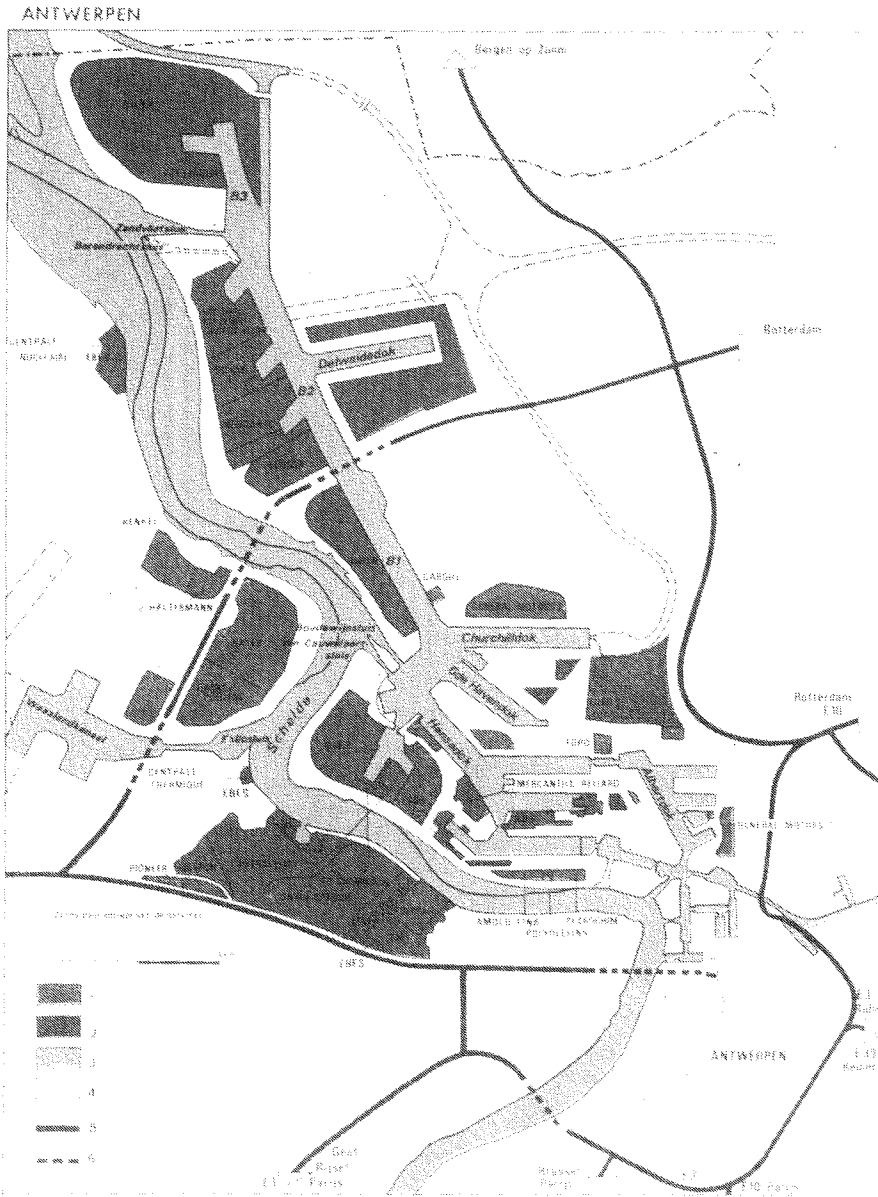


Fig. 10.- 1. Industrial Area
 2. Industrial area, in project
 3. Water way and dock
 4. Water way in project
 5. Motorway
 6. Tunnel

Source : La Flandre, un portrait géographique,
 (1984), p. 22.

of the sea until 1800, because free navigation in the mouth of the Scheldt (situated in the Netherlands) was barred for economical and political reasons. From then on the population number fluctuated between 40,000 and 70,000 until the beginning of the 19th century. Both nationally and internationally Antwerp is a port of the first order. In 1982, 17,000 seagoing ships entered with a total tonnage of 112 million BRT. 80 % of the Belgian goods transport goes through this port. For the purpose, there are 91 km of quays for sea going vessels and 7.7 km for inland shipping. Antwerps hinterland covers W. Germany, France, Luxemburg, the Netherlands, Switzerland and Italy. Because of the ports situation, about 80 km from the sea, a constant watch is needed on the depth of the Wester Scheldt. The Scheldt-Rhine link through the Netherlands delta region helps to make Antwerp an important transit point. Beside the large dock complex on the right bank of the Scheldt, the expansion on the left bank is in full development.

The present day agglomeration, including the fused municipalities, accounts for about 620,000 inhabitants. Antwerp is also famous for its rich cultural heritage.

3.8.- THE FORELANDS OF THE LOESS PLATEAUX

Between the upper Scheldt River in the west and the Gette River in the east, a transition zone of about 25 km extends from the sandy lowlands in the north to the loess plateaux proper in the south. Topographically it is a plateau, generally between 50 and 100 m in height, dissected by the rivers Dendre, Senne, Dyle and their confluents. The result is a smoothly-rolling to hilly country composed of interfluves alternating with valleys. The latter may have steep slopes and give differences in height of 40-60 m. This feature explains why people connect some parts of this area with the Ardennes ("Flanders Ardennes" and "Ardennes of Brabant"). The local name for the area between Dendre and Senne is "Pajottenland", the meaning of which is controversial: an innovation in the form of the name "Breughel Country" may be preferable because it better evokes the idea of the region for outsiders. The Hageland in the East is, by Belgian standards, true hill country; hill ridges 70 m in height rise to some 50 m above the adjacent valleys.

The whole area is covered by a discontinuous mantle of loess, varying in thickness, over a sandy or clayey Tertiary substratum. The well-drained soils on loess coincide with the ridges and give arable land with open-field landscapes. The steep slopes are wooded, just as are the hilltop on the outcrops of Tertiary sediments. The valleys are characterised by a complex of meadows and plantations of poplars.

3.8.1.- *Flanders Ardennes*

This area coincides with the Scheldt-Dendre interfluvium; the most typical part, however, is situated between the town of Oudenaarde and Ronse. The scenery is dominated by hilltop of about 150 m (characterized by place names including the mountain-substantive: Muziekberg, Pottelberg and Kluisberg). The Tertiary sediments of the Diestian period, contain locally iron-sandstone, more resistant to erosion.



Fig. 11.- Forelands of the Loess-plateaux. The dissected plateaux are forming the transition between the sandy lowlands in the North and the actual Loess-plateaux in the South. Some place names evoke the "Ardennes-like" landscape characteristics.

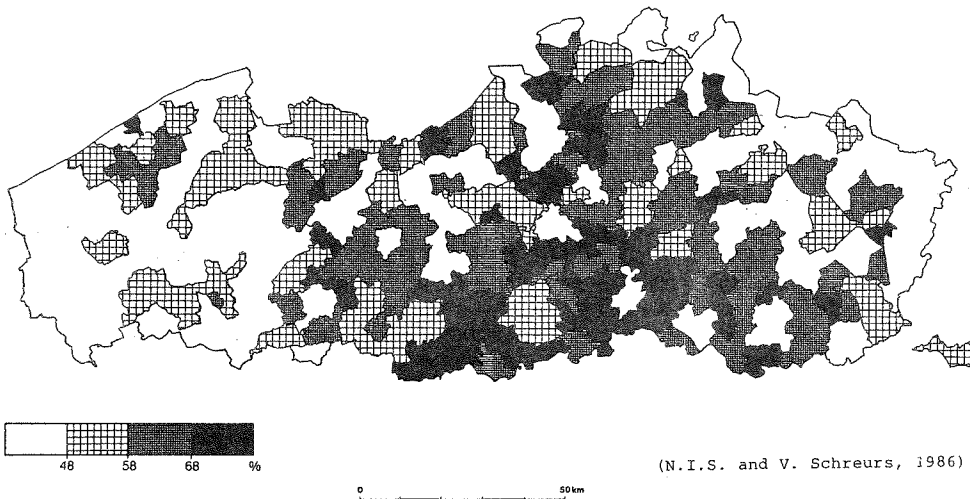


Fig. 12

Flanders: COMMUTING INDEX 1981

$\frac{\text{number of out-going commuters}}{\text{total working active population}}$

The "Diestian" tops are covered by deciduous forests and have also steep slopes. This hilly and wooded region exerts a recreational attraction. Quarrying operations spoiled already some parts of the landscape. The land use is closely adapted to the topography and shows a typical pattern. The higher situated ridges, with their dome form, are characterized by an open field scenery. In contrast herewith, the depressions and the valleys are used as grassland and poplar plantations and thus have a closed landscape scenery. A high density of small villages is typical for this area. Between the villages large isolated farmsteads are occurring showing a closed courtyard. The origin of these farms can go back to the early Middle-Ages and they played a role as reclamation centres. The abbeys of the Flemish cities were at that time important in the history of reclamation. These old farmsteads are mostly situated on the places where wells are originating. Most of the area could preserve a rural aspect, except along the roads with trough traffic. The surroundings of Ronse are strongly urbanised. The town of Ronse, situated on the linguistic border, is an old center of textile industry searching nowadays for new employment in more diversified industrial activities.

3.8.2.- *The Breughel Country*

The Breughel country is situated in the Dendre-Senne interfluvium, between Asse in the north and Enghien in the south. As in foregoing region there is the same contrast between the open field scenery of the ridges and the closed scenery of the depressions and the little valleys. Towards the south, the landscape becomes more closed by the presence of living enclosures around the meadows. This reflects the transition towards the humid loess area of Hainaut. The settlements are also nucleated in small villages and large farmsteads occur isolated. The smaller farms are mostly single roofed with a long extend of the front side. Some of them still have a lath-and-daub construction. The neighbourhood of Brussels provokes a strong urbanization pressure resulting in a chaotic expansion of residential buildings consequently an inadequate physical planning.

3.8.3.- *The Ardennes of Brabant*

The region between Brussels, Louvain, Wavre and Halle is also called the dissected land between Senne and Dyle, due to the more accentuated topography. This area has a shallow loess cover and remained under forest for longer than the other regions of the forelands. For this reason, soil erosion and colluviation were limited, and thus the original slope morphology was preserved. The valleys have a ravine-like aspect, and most of them are dry. The Soignes and Halle forests south of Brussels are the only big areas still under forest. The Forest of Soignes consists of solid stands of beech dating from the end of the *Ancien Régime*. This plantation of beeches, originally intended for timber production, now represents a listed forest with management difficulties. At a distance of only 15 km from the centre of Brussels the forest, with an area of 43 sq km, is an outlet for relaxation and recreation. Intensive use during weekends and holiday periods creates serious slope erosion, resulting in exposed tree roots. Destruction of the beeches by

wind is also a danger in the forest : it is a result of the dying down of old roots at a depth of 35-100 cm, caused by the compact B horizon of the loess soils.

Most of the people who commute to Brussels live in the area by choice. This means that the countryside is strongly urbanised, both functionally and morphologically. A chaotic spread of new houses and residential areas reflects inadequate physical planning. It can be observed that, in the municipalities east of Brussels, commuters of a higher social standing reside in the attractive scenery of the "Ardenes of Brabant", in contrast with the municipalities west of Brussels, where commuters with low and middle incomes live.

3.8.4.- *The Hageland*

The Hageland is one of these transitional regions between the sandy Campine in the North and the loamy Hesbaye in the south and is situated between the towns of Louvain, Aarschot, Tirlemont and Diest. The northern part is characterised by a series of parallel hill-rows composed of the red-brown Miocene (Diestian) sands, oxydized to very hard iron-oxyde horizons, most of them of the lateritic type. These resistive tertiary hill-tops, still forested, give this region its typical desolate scenery. A lot of the slopes are still cultivated and are bearing witness of the former viticulture. The culture of peach trees on the well drained slopes, particularly on those exposed to the South, has allowed many farmers to face the difficult economic situation of today.

Moving still further southward, one remarks a change in the general outlook of the landscape. No rolling topography, but a nearly flat area, locally disturbed by a low hill or by the small valley of an unimportant streamlet. The sandy loam cover does not rest anymore on well-drained sands, but on a sticky, Oligocene clay, soaking the soil after every rain. Cropland stays limited to the better drained parts, while the majority of the land is grassland. No peach trees any more, but instead prune orchards, because of their easier adaptation to moist soil-conditions. Still further southward one observes an increase of wheat production and also the cultivation of sugar beets is becoming important. Correlative to this goes a decrease of wooded patches, that were so numerous on the hilltops of the Northern Hageland (F. Snacken, 1958).