

## THE IDEA OF LANDSCAPE

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### **B 1 - The idea of landscape: positive approaches**

#### *B1.1 Definition*

Landscape is made of what is visible. It coincides with the interface between the atmosphere, on the one side, and the lithosphere and the hydrosphere, on the other. It is the main component of the biosphere.

Every landscape has a finite extent – it stops at the limit of what can be seen. As long as the observer is located on the surface of the Earth and looks horizontally or obliquely around her/himself, the landscape has both hidden and visible parts. When the observer looks from above, from a balloon, a plane or a satellite, the hidden parts disappear. The area covered by the landscape grows as the eye moves higher.

#### *B 1.2 Landscape as an ecological reality*

The landscape is an ecological reality: between the plants and animals of the biosphere, on one side, and the sun, the atmosphere, and the rocky and liquid components of their environment, on the other, there are constant flows of energy and matter.

These flows are conducive to states of balance: stable ones, as in the case of a climax vegetation ; dynamic ones more frequently. The system they form is able to recycle or stock the matter and energy which results from its functioning: it is normally resilient.

#### *B 1.3 Landscape as human reality*

The landscape is a human reality – social, economic, political, cultural – since it is the home of human populations: a home which produces at least a part of their food, and provides spaces for their dwellings, places for their meetings and roads for their journeys. Men use the air, water, flora and fauna offered by their environment in order to meet their needs; they work, develop sets of social relations, isolate themselves or meet each other, exchange goods and information. They transform and pollute the air their breath, release the largest part of the water they use after spoiling it, and produce litter.

### *B 1.4 Landscape as a juridical reality*

The landscape is a juridical reality: individual or collective actors involved in social life have land rights: rights of production (whether individual or collective), rights of consumption, rights of using public spaces for moving from one point to the other or meeting other people.

### *B 1.5 Landscape as a document or a text*

Since it is a visible reality, a landscape can be read and interpreted by human beings as a document, as a text (Ducan, 1990). For men, they are forces and beings which give a sense to cosmos, the universe, nature, society and the existence of everyone. Landscape is the source of many feelings and experiences: corporal, religious, aesthetic. It contributes to the building of individual or collective identities.

### *B 1.6 Landscape as an arena*

As a social reality, the landscape is an arena where forces encounter, cross and match one another (Mitchell, 2000). It may be ruled by a sovereign power, or be the theater where competing actors struggle for supremacy.

## **B2 - Landscape and circulation: scale problems**

### *B 2.1 The mobile components of landscapes*

In a landscape, there are immobile elements which do not change in a measurable way at the scale of human time – rocks, for instance. Other elements are mobile and circulate.

(i) For some of them, the main component of movements is vertical. The nutrients are moving up from the soil to the leaves, and the organic matter that results from photosynthesis moves down to the trunk and roots. This is true of all ecological systems, whether natural or cultivated. In other cases, the circulation is not perfectly vertical, but remains circumscribed within a small area.

(ii) The proportion of oblique movements (water running down slopes, or, sometimes, filtering through soil and rocks) and horizontal ones (air, aquatic currents) is also important in ecosystems. Animals keep moving from one point to the other.

Among the human population present in a landscape, horizontal displacements are very significant. In market places people sell the goods they produce and buy those they want for their personal or familial consumption. They exchange information, which is travelling either with the people who bear it, or independently, as written or electro-magnetic messages.

(iii) Most of the moves are local - within the ecological pyramids, for instance. The long range ones are conveyed through lines: roads, railroads, tubes, electric or telephone lines or electro-magnetic waves. Local as well as long range moves are generally unobtrusive: as a result, people often underestimate

the role played by the circulation of energy, matter and information in the functioning and shaping of landscapes.

### *B 2.2 Penetrating space through glance*

Besides material or information flows, people have to take account of sight: here, it is limited, as in a dense forest (Pourtier, 1989); there, it appears unlimited, as in a temperate *prairie* or a tropical savana. It is cut off by the obstacles that agricultural or building activities multiply in humanized landscapes.

### *B. 2.3 Problems of scale in landscdape analysis*

As a result, the analysis of landscapes raises problems of scale: many flows take place between the elementary areas of a given landscdape; others cross the boundary between the landscape seen from here, and the landscapes which surround it. This is as true of the ecological as of the social realm. It means that a part of what happens in a given area is linked to, and often caused by, what exists elsewhere: ecosystems are parts of geosystems; social local systems (parishes) are parts of larger ones (counties, regions, states); in the field of economics, prices depend on market places which are often located far away; for culture, the more significant units are often large, which is true of the linguistic or religious ones, for instance.

Problems of scale are significant for many ecological flows: on a slope, within a water catchment, on the leeseide of sources of pollution, etc.

### *B 2.4 Flows and externalities*

The existence of this multiplicity of flows creates many problems: in the natural field, there are zones where polluted water concentrate, leeward zones with acid rains, areas with inversion of temperatures during anticyclonic situations, etc.; in the social field, there are conflicts fueled by the negative externalities generated by many land uses (cattle devastating the nearby fields in rural areas; nuisance linked to noise and unpleasant smell in urban areas).

A part of these positive and negative externalities have a visual cause. In rural areas, field systems with long and narrow strips generated a rhythmic harmony in the landscape; consolidation of land property destroys it. In an urban setting, a new high rise building is enough to change the look of a neighborhood of low houses, etc.

These externalities lead to limitations in the rights which give owners the possibility to use their land plots according to their will: zoning regulations control the negative effects of some of their activities.

### *B 2.5 Scale effects and landscape management*

Scale effects have other consequences: a part at least of the decisions which deal with a given landscape unit are taken by people who do not live in it, or by people whose choices are conditioned by external centres of power or influence (markets in the economic field; regional or capital cities in the political one; religious capital cities or pilgrimages in the religious field).

The contemporary evolution of pollutions leads to similar consequences. Humankind now confronts global unbalances: greenhouse effects or the ozone hole around the South Pole. These global effects result from the addition of millions of local decisions concerning the spread of fertilizers and pesticides, the use of cars and motor engines, the heating or cooling of houses, etc. The coming global ecological crisis thus requires the creation of (a) global authority(ies) able to set the limits for the emission of greenhouse gases or pollutants for every area. In this way, a new scale effect linked to externalities has deeply transformed the management of landscapes during the last half-century.

## **B 3 - Landscapes as mental constructions**

### *B 3.1 The perception of landscapes*

One of the main results of landscapes studies during the last fifty years has been a new interest in the way the mind transforms them into images and concepts. The landscape is first an external reality, which is perceived through seeing, listening or smelling. The landscape is divided into elements according to categories which are social constructs: ponds, lakes, brooks, rivers; forests, woods, groves, hedges, meadows, fields, orchards, vineyards, etc.; lots, fences, walls, etc.; cottages, isolated farms, hamlets, villages, towns, cities, etc.; paths, lanes, roads, railroads, motoways, etc. Each language cuts reality into different sets of categories.

Behind the words, perception is shaped by systems of interpretation. People generally oppose wild nature, humanized nature, human settlements. Roman agronomes and lawyers preferred to speak about *silva* (the wild forested areas), *saltus* (the secondary woods and clearings which result from the burning of natural vegetation to ensure more palatable grass for flocks or herds) and *ager* (the cultivated areas). All these zones deeply contrasted with *urbs* (the city).

Many other interpretative categories are used: profane and sacred; public and private; individual and collective. Landscapes are also perceived in terms of harmony and beauty, bucolic charm and pleasures, peace and quiet, danger, threat, fear and sublimity. Landscape is affected by daily and seasonal rhythms.

As a result, the perceived landscape is a mental reality largely conditioned by the collective categories conveyed through language and passed down from generation to generation through education and imitation.

### *B 3.2 Landscapes and individual or social strategies*

The people who look at a given landscape do not react in the same way to its appearance and features. They analyze it, distinguish different elements and develop ideas about their possible uses. For an urban dweller, a rural landscape is a surface of green colours during Spring and Summer, of yellow, gold and red in Autumn, of brown, grey, black – or white, if there is snow – during Winter time: it offers possibilities for walking, practicing different sports, relaxing. For a farmer, the same landscape is made of farmsteads or villages surrounded by fields which produce different crops, meadows and rough pastures which feed herds or flocks, woods, etc. For the tourist developer, the environment is made of gentle slopes which would harbour marvelous golf links, cliffs which invite climbing, beaches which would be transformed into sea-resorts, etc. For the urban developer, it is made of plots of land which could be transformed into new housing...

Landscapes are not perceived as static background for human action. They are part of it. Each individual imagines strategies for developing some of their elements, or capitalizing on their global appearance in order to launch new activities. Landscape is thus transformed into an arena where the different social protagonists dream of future land uses and developments, and struggle to achieve them.

### *B 3.3 The interpretation of landscapes. The role of images*

Besides the diversity of sensitive and intellectual frameworks which allow one to seize the external reality and organize it mentally, landscapes may also be interpreted by comparison with imagined realities, which initiate new readings of the sensible world and give indications on the ways material setting may be transformed, improved and redrawn. The models of landscape people build in their minds differ according to cultures:

(i) In most traditional societies, people saw their environment as created and shaped by supranatural forces or beings. Landscapes were, in this way, expressions of the Cosmos, Nature or Society. The imaginary landscapes were thus built according to cosmogonic or religious models (Berque, 1995).

(ii) Augustin Berque showed that at some point in history (the fourth century A. D. in China, the fifteenth in Western Europe), a new way to perceive and imagine landscapes emerged (Berque, 1995): it relied on the aesthetic feelings that wide horizons, long perspectives, colours, shapes and movements generate in most souls. This form of imaginary landscape still shapes our perception of the environment, and many of the actions we program for it.

(iii) A third way of imagining landscapes developed also from the sixteenth and mainly seventeenth century: it was based on the idea that material flows of energy and matter are responsible for the forms of the material and living world which surrounds us. This view became systematic with the rise of evolutionism and the interpretation it provided of the processes out of which living beings develop.

(iv) With the development of psychoanalysis, new ways of conceiving the environment evolved from the end of the nineteenth century. It is perhaps in the works of Gaston Bachelard that they are best expressed (Bachelard, 1948; 1957): for him, there were deep correspondances between the forms of the environment which people inhabited and their lived experience; some places were characterized by an atmosphere of quietness and serenity which favoured meditation; others were so sheltered that they appeared as *niches* for the protection of individual or collective life. Built environments were similarly interpreted: cellars and granaries appeared, for many children living in traditional houses, as places to isolate and develop a feeling of security. At another scale, living on an island was often seen as an experience of seclusion, out of the main streams of continental life; nature appeared closer than in inland locations (Bonnemaison, 1990-1991).

The people who live in an area do not necessarily share the same imaginary landscapes. Rural workers still perceive in their daily environment the supranatural forces and beings responsible for the climatic hazards and calamities that threaten their crops and cattle. Middle class dwellers of the nearby towns consider landscapes as natural paintings, i. e. as a source of aesthetic feelings; many of them know, at the same time, that physical forces and chemical and biological processes explain the features they observe; during the last fifty years, a growing number of people have adhered to the ecological interpretation of landscapes. Poets are more open to the psycho-analytical images.

Denis Cosgrove has shown the pregnancy of these images: icons often have a natural authority (Cosgrove, 2006); the people who imprint on the reality the best valued forms of imaginary landscapes of a time benefit from it. In order to legitimate the power they were harnessing in the economies and societies of their country, the new ruling classes in Venice in the late sixteenth and seventeenth centuries, and in Britain in the eighteenth and nineteenth centuries, impressively reshaped the landscapes they controlled.

#### *B 3.4 Values and the dynamics of landscapes*

Mental landscapes are loaded with values: religious, aesthetic, but also moral or national. These values play a significant role in the dynamics of landscapes.

The religious reading of landscapes has important consequences. It is often conducive to the opposition between profane and sacred areas. In the sacred areas, everything has to be respected, since its presence results from the action of supranatural beings or transcendental forces. Hence the total preservation of nature in sacred areas: in many religions, holy woods signal them. In the profane zones, on the reverse, people are free to act according to their wishes or whims, since supranatural forces and beings are lacking: the situation is completely different.

In many cases, sacredness is more diffuse – and sometimes, discontinuous: the sacrality of the Earth is general, at least at some times, which means that an authorization has to be asked from the gods in order to do such or such things; it limits the possibilities of abusing the environment. The study of the

French anthropologist Philippe Descola stresses the significance of this type of relation to nature and its role in natural conservation (Descola, 2005).

In purely profane areas, the values which are mainly recognized are economic ones: the fertility of fields is transformed into land values, and the proximity to the centre of a city into prices of landed property.

Aesthetic values act in different ways. The features which confer their attractiveness to environments are fragile: the size, colours and forms of houses, for instance, depend on the preferences of local people, their wealth and the power they have to control their own space. The wish to preserve the harmony of landscapes is expressed through policies of preservation: what is protected is the look of the place. Aesthetic feelings are also translated into land values when the harmony of a rural area, the quality of its building, or the charm of a city attract tourists or people in search of second homes.

The "scientific" interpretations of the landscape which developed since the seventeenth centuries were mainly used to improve their practical purposes: productivity of farming or cattle-raising, quality of housing, road security, etc. With the ecological views which have grown since the end of the nineteenth century, and mainly after 1950, the situation has changed: natural ecosystems enjoy a fundamental property, their resilience, which means that up to a point, they are able to recycle more matter and energy than usual without major disruption. Above this threshold, the situation differs: nature is not able to recover by itself. Hence the need for corrective actions.

#### **B 4 - Landscape and identities**

One of the main results of the contemporary interest in mental landscapes is the discovery of their role in the construction of identities: as mental constructs, they help people know who they are and from whom they differ.

##### *B 4.1 The role of familiar landscapes*

When living in a place, the forms of hills, the vegetation of slopes, the pattern of fields, the lace that hedges and walls draw in the countryside, the colour of roofs, the stones, bricks or wood they are built of, the breadth of streets, their shops, their animation, constitute the background in front of which human roles are performed. All these elements participate in the general atmosphere, and give it its peculiarities, perfume and originality. People cannot imagine their lives out of a setting which has become so familiar to them that it forms part and parcel of their identities.

Geographers who work on the native populations of East Africa, Madagascar, Australia or Melanesia are struck by the strength of the links woven between these indigenous peoples and their environments (Raison, 1977; Bonnemaïson, 1981). Australian aborigines were semi-nomadic peoples, who did not practice farming or sheep- or cattle-raising. The resources their lives depended upon were present in most Australian environments. During the nineteenth centuries, British settlers did not hesitate

to push the natives every day deeper into the continent. They did not understand for what reasons the displaced populations lost their taste for life and often chose to die. They ignored the role of the founding spirits which had inhabited the land during the time of Dream and had chosen to transform themselves into sacred rocks or springs just after having bequeathed human beings all the elements of culture (Elkin, 1937). The story is in many ways similar in Melanesia or East Africa.

A generation ago Pierre Nora showed that the way identities were built on familiar landscapes and ways of life was different in most traditional cultures (Nora, 1984). In them, the religious dimension was less important – even if there was a significant presence of sacred places, pilgrimages and the constant reaffirmation of specific symbols in the landscape. In a community, people were able to understand the way fields were tilled, cattle was raised and houses were built. They knew the tools used by the stone-masons, carpenters and slaters who built houses, the shoemakers and tailors which produced shoes and clothes, the butchers, bakers and grocers which prepared and sold food: in societies in which vernacular cultures were the depositories of practically all the productive techniques, everyone had the possibility to understand, at least partly, how things were made and landscapes shaped. They were all the most familiar with visible forms than they knew the way they were generated.

We are experiencing a fundamental change in the nature of vernacular cultures. Those of the past were mainly built on the oral transmission and visual imitation of the words and gestures of people living in the same home or the same place. We are entering the age of vernacular mass cultures: the passing down of habits, attitudes and know-hows has ceased to rely on local processes; it is largely based on the new capacities of media to broadcast scenes of daily life filmed in distant places; vernacular cultures are now mainly made of consumption habits and the capacity to repair the manufactured items which presently constitute the largest part of daily environments.

Landscapes have ceased to be shaped through the use of tools and techniques everyone is able to understand. They are planned by engineers, architects or landscape architects who often have no previous knowledge of the environments in which they work, and master techniques which allow them to ignore most of their characteristics. Such landscapes have ceased to pertain to the living memories of local people: even if they are technically well organized and ecologically sound (which is seldom the case), they have no appeal to the local populations.

#### *B 4.2 Landscapes, national memory and the national character*

The feeling of identity that landscapes create is not only linked with the familiarity people have with the environments of their daily life and the way they are built. It results also from forms of memory encapsulated in specific elements: the tombs and cemeteries which speak of the ancestors who were born and died there; the churches, mosques, stupas which remind of the faith shared by the population; the monuments built in the glory of the revered God (or gods), the memory of local heroes. In this way, landscapes are transformed into depositories of the memory of the group and contribute to its collective identity.

A generation ago, Benedict Anderson analyzed the way national consciousness was developed in Western countries from the end of the eighteenth century (Anderson, 1983). Nobody was able to know the whole territory of Britain, Germany, France or Italy; it was truer for Canada, the United States, Brazil, Australia or Russia. Nobody was able to anchor his/her national identity in a direct experience of national environments. This experience had to be taught by the rulers and learnt by the population.

History and geography played a central role in the construction of nations, the best known of imagined communities – but the situation was not very different at the regional scale. History drew attention to the places where decisive battles were won, where soldiers lost their lives for saving their home countries. It stressed the role of big abbeys, cathedral churches and pilgrimages in shaping the faith which held the nation together in difficult times. It showed the role of the castles of the King and his nobility who succeeded in gathering counties, dukedoms, bishoprics which initially form a patchwork. It explained the role of the capital city in organizing the national territory and developing a national civilization. In this way, history paved the way to geography.

Geography brought other considerations: sacred places where the national destiny was forged were scattered all over the territory or concentrated in specific areas: every pupil had to get acquainted with this form of knowledge. Geography also spoke of landscapes. Their role in building imagined communities was not evident. In France, for instance, Hippolyte Taine, one of the main historians and essayists who contributed to the construction of national consciousness, traveled widely in the country (Taine, 1863/1865). He was born in Northern France. The Mediterranean nature was completely foreign to him: he did not feel at home in this part of France; he had the feeling that the local population had been unable to protect the natural cover and was thus responsible for extensive soil erosion and the decline of this part of the country. Out of such interpretations, it was difficult to build a strong sense of national unity.

In order to avoid this kind of reaction, the variety of landscapes had to be interpreted in terms of complementarity, or superseded thanks to the choice of a national stereotype: the first solution was illustrated in the case of France by Jules Michelet, an historian, in the 1830s, and Paul Vidal de la Blache, a geographer, at the beginning of the twentieth century (Michelet, 1833; Vidal de la Blache, 1903). The second possibility was explored in other countries: it relied on the selection of a type, or a few types, of landscapes, which express(es) the genius of the people and the way it conquered the land and transformed the difficulty of its settlement into a collective achievement. In Denmark, as showed by Kenneth Olwig, the moors of Jutland served as a federative theme (Olwig, 1884): their initial poverty, their harshness gave them a romantic and somewhat sublime aura; their conquest by farmers was one of the major achievements of the Danish peasantry during the nineteenth century.

In Switzerland, the Alps provided a wonderful national stereotype. The nation was born out of the initiatives of the mountaineers of the primitive cantons, in the thirteenth century; herdsman who spent several months every year on the high pastures enjoyed a difficult, frugal, but healthy life, which hardened their character; they had a direct experience of freedom. All the qualities of the country, its beauty, its purity, the quality of its inhabitants were exemplified by the Alp mountains.

#### *B 4.3 Multicultural societies, landscape and the building of identities*

The Swiss mountains offered another advantage: they are peopled by groups speaking German, French, Italian and Romanche, the four main languages of the country; a part of the mountaineers are Roman Catholic, another one Protestant. The image of the mountain could be shared by all the communities and provided a means to unite them into a nation.

Most developed societies have become multicultural for the last half century because of international migrations and the flow of political refugees. This form of multiculturalism is different from that which existed in the part of Europe where rural communities speaking different languages and practicing different religions were juxtaposed for centuries. By now, most of the minorities settle in urban areas, very often the major metropolises: many of them have landed there in their new country; it is there that they have the best possibilities to get a job.

In such a context, landscapes are not made of a patchwork of elements reflecting different communities. The landscapes, whether rural or urban, have been shaped by the oldest and generally still dominant community. They often served as founding stones for national identities. But what about the newcomers? They have no landscape of their own. In the past, they often refrained from developing settings shaped according to their own values and preferences: during the nineteenth century, European immigrants in the American Mid-West accepted the grid pattern as a common matrix, and built balloon frame houses just as the Americans in the next communities. The only touch of originality was the presence of churches of different denominations, and of cemeteries where the graves still spoke of the homelands of the migrants.

The situation is different now: the grid pattern was a loose framework, just conceived to provide a simple system of land division, road construction and creation of local communities. It was purely rational and did not involve religious or ideologic views – only some form of rationalism, as shown by John Brinckerhoff Jackson (Jackson, 1979). Migrants now live in cities which allow them less freedom for interpretation and adaptation. Religious and ideological monuments planned by the dominant community are present everywhere. Collective life is channeled through the streets and concentrated in the squares which have been planned by it. All these elements speak about the values of the dominant culture. In such a setting, newcomers often find it difficult to maintain a measure of self-consciousness. They feel overwhelmed by forms which are foreign to them. Hence, often, the need to imprint marks of their own culture and identity in the landscape – especially in the public spaces, since they are open to all communities: they can help to cement the identity of the migrant group, and show the others that it exists and has to be recognized as such.

## **B 5 - Landscape policies**

Landscapes are humanized realities. Policy makers cannot be indifferent to their form and evolution. They wish to have them settled and exploited, or preserved as testimonies of what nature was like before humanization. Landscapes have an archeological dimension, since a part of the field systems, farms, mansions or castles they offer dates from a more or less distant past and speak about the history of the local and national communities. Landscapes are valued for many reasons: in traditional societies, they constitute a familiar setting that everyone is able to understand, and which contributes to the building of individual and collective identities; in more developed societies, it is through their visual qualities, as objects of consumption, that they are increasingly valued; at a time when the pressure on ecological systems endangers their functioning, those which remain «natural» enough, for still being resilient, have to be protected.

### *B 5.1 Landscape policies from below*

The shaping of humanized landscapes results first from the many local decisions of land owners and land users concerning agriculture, housing, circulation, social relations. Local authorities are in a good position to influence them. They are responsible for the creation, maintenance and control of public spaces, roads, squares; they are in charge of garbage collection and waste water treatment – or control them; they monitor the quality of air and decide traffic restrictions when the ozone rate is too high; they are responsible for regulations concerning the nuisances that some land-use is generating both in rural areas (wandering cattle destroying cultures, for instance), and in urban ones (forbidding dangerous or unhealthy activities; preventing the erection of too high buildings).

The success of these landscapes policies does not derive only from the local authorities' action: it relies on the attitudes of their electors. Concerning the many actions which spoil landscapes and destroy their balance, everyone has a responsibility. Coercive measures have to be complemented by pedagogic ones: it is important to explain the reasons why people have to care for litter, refrain from cutting wild flowers and avoid noisy activities for the sake of their neighbours or wild animals.

### *Landscape policies from above*

The smooth functioning of the activities in a place, the improvement and preservation of its natural and humanized landscapes do not depend only on local initiatives. The persons or enterprises taking decisions at the local level have to respect national laws and regulations; they often depend on headquarters located in a big city in the country or abroad; they have to take in consideration the evolution of market prices. Since a good part of what concerns local landscapes results from factors or decisions operating at a larger scale, local authorities usually have no jurisdiction, or only limited jurisdiction, in those fields.

Policies from above are rooted in the scale of many of the forces present in any place, in the role of persons, enterprises or associations developing actions in different locations, and in the existence of

externalities, the effects of which can only be measured for a whole river basin, region or nation. By now, with the emergence of global effects, some form of international agreement – and power – has to be achieved in order to avoid spirals of global environmental degradation.

Laws and regulations are the main tools that central or regional governments mobilize in order to control the evolution of landscapes, preserve their ecosystems, facilitate their productive uses, maintain their visual quality and save the memory incapsulated in them. People are required to conform to laws and regulations; local governments have to accept the limitations and orientations which are imposed on their activities.

Just as for the policies from below, it appears that coercive measures are not enough – and that they are not always very efficient.

### *B 5.2 Glocalization and new forms of landscape policies*

The hierarchical exercise of power was linked to the way information was transferred as long as traditional technologies dominated: to link two points on Earth, the only solution was to move up along a hierarchy of centres of information treatment and transfer, until the point where a similar descending chain opened the possibility to reach the correspondent. This meant that the quantity and quality of information people received was all the better the higher they were placed in the communication structure – in a big city, the capital. Political organizations had the same basic structure. Their head benefited from the best access to all news: it was a fundamental element of their power.

The new information technologies offer new possibilities: from any point, rapid communication is available with any other location on Earth without filtering effects. Glocalization offers all places the same advantages. This means that populations everywhere may receive the same news and acquire the same forms of knowledge. Capital cities and big metropolises, and the power systems they still harbour, lost one of the advantages they enjoyed in the past.

In such a context, it becomes difficult to enforce regulations upon reluctant populations. It is more economical and efficient to cooperate with them. Hence the new orientations taken by all policies: (i) they are increasingly based on cooperation and rely less on legal enforcement than in the past – as shown by the growing concern for governance; (ii) in order to economically modify the behaviour of private actors, they increasingly mobilize all forms of communication to transform citizens' attitudes.

## **B 6 - Landscape changes in the contemporary World**

### *B 6.1 The universal availability of concentrated forms of energy*

We are living a time when landscapes are going through deep and rapid transformations. The first set of changes results from the possibility to mobilize concentrated forms of energy everywhere. It is a consequence of the increasing use of oil and electric power, which can be transported more easily and at a lower cost than wood or coal.

The universal availability of concentrated forms of power was conducive to the mechanization of an increasing part of human labour: agriculture, domestic life and industry are increasingly efficient thanks to the use of tractors, domestic appliances and an ever more complex set of machines.

To plough with a tractor or harvest with a combine involves fields big enough for the evolution of these machines. As a consequence, land consolidation appeared necessary in many areas of traditional farming, with the destruction of many of the walls, fences or hedges which reduced soil erosion.

In a mechanized agriculture, the energy inputs are high. In order to make production more efficient, farmers rely on greater inputs of fertilizers and pesticides: hence more dissolved nutrients in run-off or infiltrated water, and problems of resilience in local or downstream ecosystems. Cattle-raisers increasingly feed their cows and calves with cereals or soy coming from elsewhere: hence a higher density of cattle heads per square kilometer, and so much manure that it is impossible to recycle it locally – with the same consequences on the cycle of water. This means that externalities – especially negative ones – between the agricultural ecosystems are growing rapidly.

The availability of concentrated forms of energy explains the growing urbanization of populations. Because of the general use of cars, domestic appliances, better systems of heating or climatization, the quantity of noxious gases, waste water and rubbish produced by head keeps growing. With the rapid increase in urban population, the amount of used water and matter to dispose explodes: local ecosystems are unable to recycle all these elements. In the nineteenth and early twentieth centuries, the solution was to export all this waste to the rural or natural ecosystems around the city. They are now saturated. This means that urban negative externalities affect landscapes in a growing radius: acid rains in the leeway of cities or major industrial areas, polluted rivers and coastal seas downstream, etc.

### *B. 6.2 The increasing mobility of persons, goods and information*

The availability of concentrated forms of energy allowed the generalized use of cars – or public transportation – for daily or weekly trips or journeys. As a consequence, the scale of local communities changes: parishes had to be consolidated in most modern countries so as to cope with the enlarged circles in which life is structured. The local regulation of landscape management is deeply disturbed by this evolution.

The increasing human mobility has had an important impact on land demand: people choose suburban locations because they wish to enjoy larger homes, private gardens as well as parks and playgrounds in the vicinity. This evolution is facilitated by the higher output of farms: it is possible to cope with food demand with less arable land. The increasing mobility is thus responsible for the transformation of many former rural landscapes.

The higher mobility increases the proportion of people living in a place, or visiting it, who have no local roots and did not develop a local consciousness: many of the actors who have an impact on local environments (such as tourists, owners of second homes, recent immigrants, employees of big

corporations who keep moving from one of its factories to the other) do not feel responsible for them and the associated landscapes.

With lower transportation costs, goods became more mobile: the size of markets (for raw materials, energy, food, machinery, etc.) grows rapidly. The time when many of them were national is over. We are living at a time of continental, intercontinental or global markets. This means that competition has become harsher: local decisions are increasingly affected by the performance of firms located in South America, Eastern Asia, India, etc. In order to reduce their production costs, many farmers or industrialists are cutting down on their environmental expenses.

The increased mobility of news and information has transformed the Earth into a global village: people become very quickly acquainted with new fashions, new attitudes. They adopt new consumption habits and mimic the behaviour of the well-to-do people in more developed countries. This is the negative side of the transformation. There is also a positive one: a growing consciousness of the limits of Earth and of the global threats on environment.

The increased mobility of people and information also has important consequences on the territorial organization of modern societies: because of the wider scale of many environmental externalities, larger scale administrative units are now involved in environmental and landscape regulation – regional instead of local, national instead of regional, continental instead of national, etc. The global scale is increasingly significant because of the green house effect and the ozone hole around the South Pole.

Because point to point communication is easier, a deep change in the role of organizations is occurring. Those which were based on a hierarchy of territorial competences – the political, administrative and up to a point religious ones (for the Roman Catholic Church, for instance) – have lost the monopoly they had on territorial information and the settling of territorial problems. They have increasingly to compete with non-territorial forms of organization: enterprises, sects, non-governmental organizations. This means that the whole structure of environmental and landscape policies is changing.

## **B 7 The lessons of landscape studies**

Unfolding from the end of the nineteenth century, landscape studies have opened an understanding of their nature and of the problems we have tried to summarize in the previous developments. They also offer more specific lessons.

### *B 7.1 The study of rural landscapes*

(i) Rural landscapes attracted much attention from the beginning. The main features of many of them resulted from policies developed by central governments. They imposed geometric grid patterns in order to facilitate settlement in undeveloped areas, to distribute their lands in an efficient way to farmers, and to build an efficient system for levying land taxes. The best examples were provided by the early

Chinese or Japanese geometric systems of land division, the Roman cadastration, the American grid pattern as developed from 1784 onwards, or the policies of land consolidation as practiced from the fourteenth century, and mainly in the eighteenth and nineteenth centuries in England, in the 1700s in Scotland and about the same time in Sweden.

Instead of a geometric model centrally planned, there were many cases when local authorities were responsible for the policies of land development. They also often relied on geometric solutions: the same models were reproduced from place to place, but without any spatial continuity between them – as in the *Waldehuffendörfer* of Early modern central Europe or the French Canadian *rang*.

(ii) Agricultural and pastoral activities were in many cases organized and managed by local communities which enjoyed some measure of autonomy and tried to be as self-sufficient as possible.

The problem was to capitalize on the different land capabilities and to organize land uses in order to cover most of the needs of the group, and take advantage of some of the local capabilities in order to export some productions and buy elsewhere what could not be locally obtained. Roman agronomists reflected in this way on the complementary of *silva*, which produced game and timber, *saltus*, which offered firewood and charcoal, and was used as rough pasture for the herds and flocks of the community, and *ager* which was mainly specialized in the production of the Mediterranean trilogy of wheat, olives and wine.

In many cases, an ecological and socio-economic system was planned in each locality. Two main types of structures were imagined: (i) the *infield/outfield* system, in which the arable land (*infield*, or *ager*) occupied only a small part of the territory, protected from the herds and flocks which wandered in the moors of the *outfield* (or *saltus*) by fences; (ii) the *openfield* system, in which crop rotation was organized between the three fields devoted to winter cereals, spring cereals or legumes and fallow; in this way, *ager* and *saltus* were almost completely integrated, since fallows and stubble fields served as temporary forms of *saltus*.

The evolution of *infield/outfield* systems led to another type of rural landscape. With a growing population, an intensification of land use was necessary. It relied on the transformation of a growing part of the moors into farm land. The evolution was generally a piecemeal one: in order to protect the new plough-fields from the teeth of herds and flocks, they had to be protected by fences or walls: hence the development of farmland criss-crossed by hedges and trees (*bocage* in French) (Claval, 2007). The process was no longer a structural one. It was rather based on a generative grammar, which led to the progressive extension of a new type of farmland.

In systems of swidden cultivation, the relation of *ager* and *saltus* was based on long term rotations.

(iii) Agricultural and pastoral activities were not always aimed at the satisfaction of local demand and local needs. They produced for exterior markets, often faraway ones. The aim was not to organize self-sufficient social cells, but to export local productions.

In such systems, farming is subject to many forms of hazards: natural ones, as elsewhere, caused by frosts, droughts, floods, etc., and economic ones, linked to the variations of demand and the ensuing fluctuations of prices. Hence the vulnerability of small farms and the predominance of large ones – *latifundias*.

The rural landscapes of *latifundias* differed widely from those of self-sufficient agriculture because of their larger fields. Whenever exportations failed, big farms tended to divide their land among small sharecroppers, in more self-sufficient systems.

(iv) The logic behind land uses is changing rapidly all over the wide areas subject to suburbanization or rurbanization. Agricultural production is no longer the dominant concern, even if there are still farmers and if farming is the most important form of land use. For many, the rural scenery is appreciated as far as it is harmonious and pleasant; they fight for the conservation of features more attuned to traditional agricultural techniques than to contemporary ones. At the same time they wish find places to practice the sports they like: hence the growing extension of golf links, tennis courts, swimming pools, etc. At the same time, they are fond of truly natural environments: hence their efforts to preserve the natural flora and fauna, even when the presence of wild animals is not welcomed by the farmers.

The result is a patchwork with no dominant logic – and often dubious results both on the aesthetic and the ecological sides.

### *B 7.2 The study of non-rural landscapes*

What happens in the suburban or rurban areas is an example of one of the deep trends of contemporary attitudes concerning landscapes: the social demand relative to them is diversifying. For long, the two main functions they had to perform for human beings was to participate in the productive process and to provide space for housing and social activities.

Today, there are groups which struggle for the restoration of «true» nature: any human presence (except for a few natural scientists) and interference has to be avoided – it is important to leave room for «natural» processes and the development of «natural» balances.

Another demand is for sport and tourism activities. In mountainous areas, people chose to live at higher altitudes in order to be closer to Alpine summits, glaciers and snowfields. Along the seashores, it is the proximity of the sea, the presence of clean and white sandy beaches, the tall silhouettes of coconut palm trees which are the more valued.

There is a growing proportion of people for whom landscapes are just a scenery in front of which it is pleasant to perform their productive roles or to inscribe their personal and familial existence: hence the success of suburban and rurban environments, the building of neighbourhoods or even cities reminiscent of medieval times, of the Renaissance, or of the City Beautiful Movement – as in the creations of Disney in Florida; hence the gentrification of old districts, once dilapidated, and which, after restoration, provide a pleasant environment for the new elites.

The design of urban landscapes was traditionally based on functional forms and the glorification of power and ruling elites. The situation is now different: postmodern architecture is based on the use of forms which reminds us of other places and other times; the aim is to create pleasant scenery, to invite to leisure, to dream. It has nothing to do with the main aspects of productive life, the exercise of power or the search for the Ultimate Truth. It is made for entertainment.

### *B 7.3 Landscapes as overall social units*

As shown by Kenneth Olwig fifteen years ago, the term landscape – or its earlier forms, *landskip* for instance – were coined and used before the revolution in painting brought about by the rediscovery of perspective and the birth of landscape as a *genre* of painting (Olwig, 1996). In some areas, especially along the North Sea shores, in Schleswig-Holstein for instance, *landskips* were coastal settlements characterized by specific environments – coast line, sand, moors – and a high consciousness of their originality. They were more or less autonomous political units: they had the right to manage their environment according to their needs and to the idea they had of the preservation of its resources and balance.

In such a context, landscape was more than the totality of the things which could be seen from a point. It was the expression of a social group which used it as its habitat and managed it according to its long-term interest. In a time when it appears increasingly urgent to imagine sustainable forms of development, this model of landscape is seductive.

More recently, Kenneth Olwig has gone further in his exploration of the social and political dimension the idea of landscape may integrate (Olwig, 2002).

Would this conception of landscape as an overall social and political unit be useful for resolving the contemporary crisis of identities and the problems of sustainable growth? This is the main issue at stake at the Lisbon-Obidos PECSRL 2008 Conference.

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