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Landscape and landscape ecology as factors in the process of integrated spatial management

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During the last years, the landscape definition related to the European Landscape Convention has been more and more recognised among scientists and planners dealing with different aspects of landscapes. Among certain scholars, the definition has been abbreviated to the sentence: ‘an area, as perceived by people’ (Council of Europe 2000), thus focusing on the mental construction of the landscape concept. Indeed, this perceptual aspect is also crucial to understand the ongoing mental battles on landscape identity that can be observed within Europe these years at all spatial levels. However, as far as I can see, the real new and innovative aspect in the definition of the Landscape Convention is precisely the interrelation between this first part, and the second part: ‘whose character is the result of the action and interaction of natural and/or human factors’ (Council of Europe 2000). I have been told that the definition was created as a political ‘compromise’ between a social constructivist and a positivist/materialist point of view. If so, it was a lucky compromise, giving room for a highly needed new quality in European landscape research and planning that for many years has been more and more influenced by a strong division of basic concepts like nature/culture, body and soul, city and countryside etc., primarily related to a still stronger division of basic thinking in natural science, social science and humanities.

The development of European landscape ecology

Since the beginning of the 1980s broad landscape themes have been a part of an ongoing discussion among an interdisciplinary group of landscape scientists and planners, calling themselves landscape ecologists. Some of these consider themselves exclusively natural scientists, but in Europe they represent a minority. In the standard brochure from the International Association for Landscape Ecology (IALE) landscape ecology is presented as “the study of spatial variation in landscapes at a variety of scales. It includes the biophysical and societal causes and consequences of landscape heterogeneity. Above all, it is broadly inter- and transdisciplinary”. The organisation is presented as “An organisation devoted to sustainable, scientifically based management of

landscape architects presented us an example of modern landscape corridors having been constructed as strip forests to connect different isolated forests localised in the summits of the hilly agricultural landscape: "You have been discussing landscape theory for a week, but here we have done it in practice, and you can see the result", we were told. Asking for the financing of the corridors, we were told that the local farm co-operative had got a loan from the Ministry of Agriculture to cover the expenditures. Due to the experimental character the loan was very attractive: It was free of rent and payment. But one important condition was added: it had to be proved that the corridor worked. In other words that the investment would be paid back in an improvement of the dispersal of plant and animals. We were looking at each other. It was very clear to us that the planning of landscape corridors would put a responsibility on our shoulders concerning their functionality. Of course! But honestly, we were not at all in a position where we could deliver such a proof.

Correspondingly an interesting division of labour in the development of landscape ecology since the 1980s can be observed: many scholars and institutions kept the applied approach and tried to combine the planning perspectives of dispersal ecology with other spatial planning principles related to geo-ecological landscape stabilisation or landscape accessibility for recreational purposes. Other scholars and institutions concentrated on detailed field work based dispersal ecological or metapopulation studies of some carefully selected so-called 'key-species'. Both groups went often, but not exclusively, into computerbased modelbuilding and development of spatial statistics based on GIS and Remote Sensing data. But these trends were to a certain extent regionally differentiated: American landscape ecology clearly moved in the direction of quantitative model- and science-based academic studies, mostly in 'natural areas', eventually under human 'disturbance'. Parallels to this trend could be seen in most parts of the new world (e.g. Australia) as well as in other areas with low population density. European landscape ecologists, however, have in general kept the interdisciplinary and applied planning-oriented approach, putting more emphasis on a holistic view on landscape ecology and its application. This is especially the case in the more densely inhabited parts of Europe. Rather than to see this division as a sign of fragmentation within landscape ecology it should be welcomed, since both trends are necessary for the common goal (still dominated by natural scientific thinking), namely "to develop landscape ecology as the scientific basis for the analysis, planning and management of the landscapes of the world". (IALE 1998).

However, it also reflects some other fundamental differences in the conditions for landscape planning and management: in North American tradition, protection of nature is almost entirely related to public regulation of state- or federal owned nature reserves. Here, the implementation of landscape ecological principles for regulation is in general rather straight-forward. In the densely populated Europe, dominated by old cultural landscapes, nature protection and nature development has by necessity been much more dependent on co-operation between public, private and co-operative types of land ownership, giving rise to very complicated context-sensitive planning and management of European landscapes. In the end, who really has the competence to change these types of landscape? Who decides, who takes the actions, and what influences their decisions and actions? How are these decisions and actions related to the historically developed identities of these landscapes for different groups of people? And how are these identities influenced by decision makers and active changers of the landscape?

For the elucidation of these questions, it is useful to introduce a distinction between the different forms of practical geographical competence existing to put forward changes in a landscape, set up by the late Swedish geographer Torsten Hägerstrand.

In a paper on the political geography of environmental management he emphasises that all human management of the environment is in general based on a clear partition of competence to given geographical domains (Hägerstrand 1995). The lowest primary domain is the unit of property, within which the owner has the free right to change the landscape, within some general rules set up by society. The owner or user is the only one that can make physical changes within his or her domain, and this right receives strong protection in almost all societies today. Fixed rules must be followed when they are transferred from one owner or user to the next, and boundaries tend to be very stable over time. Hägerstrand calls this exceptional right to manage and change the primary domain the right to exercise territorial competence – this to be seen in contradiction to the much more limited spatial competence of all power holders of domains at higher levels – that is municipalities, regions, nation, EU, typically represented by politicians and the public service related to these domains.

They certainly have competence within their strictly defined domains, but only the competence to set up general conditions on what should or could

be done within the domain or to designate sub-domains, and set up special conditions for these areas.

But if they want to change the landscape physically, also designated areas, they have to make an agreement with the owner or to buy up the land, meaning acquiring the territorial competence of the domain at the lowest level. The only exception to this rule seems to be within the infrastructural sector.

The power holders of higher order domains will often be split up in two different strata: beside the integrating bodies with spatial competence, specialised bodies, such as a ministry of agriculture, forestry or environment, will exercise functional competence, uniting the specialisations within the geographical domain. The functional competence might have a certain extended spatial influence, setting up conditions also at the lower levels of domains, but still the power holders of functional competence cannot in general directly make any changes at the lowest level.

All the power holders of higher order domains can only take care of symbolic transactions: political deliberations, rule setting, control, tax collection, subsidy provision etc. Symbolic transactions at the social level are vital for the transformation of society and for its ability to unite for common future goals. But we should have no illusions concerning their power in a direct transformation of our European landscapes. Hägerstrand characterises the difficulties facing a transformation towards a sustainable use of our landscapes through symbolic transactions in this way:

The social realm of symbolic transactions has a surface part which is mobile and where only lack of imagination sets limits to the content of desire-pictures about the future. But deeper down this highly visible canopy is held in place by the rather stiff stems of social institutions. Their task is in most cases to resist rapid change. On the landscape itself, for quite different reasons, there is also inertia. It takes almost a century for a coniferous forest to mature. Big cities persist for millennia. So, when a new thought such as the large-scale management of the biosphere emerges among the desire-pictures, every form of real practical action pointing in a new direction meets a world in which social institutions and physical arrangements are plaited together in an intimate grip and with few exceptions organised for exploitation of nature rather than caretaking and rejuvenation (Hägerstrand 1995).

It's a basic conclusion that symbolic transactions have first of all to be formulated and developed in accordance with or at least not against the interests of the power holders of the primary domains.

This of course makes landscape planning and management very vulnerable especially to changing market prices for any type of farm or land use products, economically critical for the land use decisions of the majority of European land owners. Thus, trends in market conditions and market development, not the least in the form of politically promoted globalisation, cannot be separated from any type of policy, planning and management related to the European landscapes.

Sustainable development and globalisation

The development of modern landscape ecology has been closely related to the development of a growing interest in landscape planning and management following the foundation of the environmental movement and the rise of sustainable development as an agenda for the common future.

However, during the last decade the agenda on sustainable development has obviously been challenged by the agenda of globalisation, closely related to the demand for an open market pushed forward by the World Trade Organisation. These two agendas are now running their own individual life almost independently from each other. The globalisation agenda is driven by technological and economic renewal, dominated by traditional economic power. In comparison the agenda on sustainable development is more defensive and with less influence on the present rapid landscape changes. The agendas have, at least up to now, differed in the way that globalisation is oriented towards an open market with the individual producer and consumer in focus, whereas the agenda of sustainable development is oriented towards collective goals, such as nature protection, pollution, common land use, social justice etc. At the political level the globalisation agenda has been accomplished almost without any spatial or geographical dimension, whereas the sustainability agenda has been closely related to the handling of the differentiation in the material environment apprehended at different spatial scales.

The European Landscape Convention (Council of Europe 2000) can be seen as a concretion of the sustainability agenda, focusing on the need to change the historically developed landscape perspective from a more or less narrow specialist or artist issue to an integrated part of local and regional democracy. The Convention also develops a frame for nationally and regionally differentiated handling of landscape questions in the different parts of Europe, by prescribing the signing national authorities to identify their own landscapes throughout the national territory, to analyse their characteristics and the forces and pressures

transforming them, and to take note of changes, as well as to define quality objectives for the identified landscapes (Art. 6). In the explanatory report enclosing the European Landscape Convention it is explicated as an important aim that

“Landscape must become a mainstream political concern, since it plays an important role in the well being of Europeans who are no longer prepared to tolerate the alteration of their surroundings by technical and economic developments in which they have had no say. Landscape is the concern of all and lends itself to democratic treatment, particularly at local and regional level’ (par. 23 of the Explanatory Report (Council of Europe 2000)).

Extensive integrated research projects carried out in several European countries during the 1990s lead the foundation for this process, too, with emphasis on local studies of landscape and sustainable development.

Also the globalisation agenda is carried out at different spatial levels from the global to the local, working primarily with deregulation, market orientation, product differentiation and reduction of distribution costs, attended by a considerable centralisation of business power. However, where the globalisation agenda at least up to now has been centrally regulated especially through international politics, the sustainable development agenda is mainly formulated and concretised at a lower, often regional and local, level.

As a consequence, policy formulated at the local landscape level is forced to handle economic decisions and rules most often made at a higher level. In general, only at the local level the two agendas are integrated, and only here the landscape consequences of globalisation come to the surface.

Here, the future influence from the globalisation agenda should not be underestimated – not only at the material land use level with a variety of landscape ecological consequences, but also concerning perception and identities related to landscapes: the growing interest in the landscape as a place of identity with qualities to be protected and developed as a common good should be seen as parallel to a growing commercial interest in the attachment of product qualities as a part of a unique landscape identity that can serve as a brand to escape price competition following the globalisation agenda. On the one hand we can observe how local and regional communities these years involve the inhabitants heavily in the promotion of any type of landscape qualities and local identity that can serve to place the community in the consciousness of the surrounding world. On the other hand powerful stakeholders will always dominate the resulting general regional and local

branding process. The more the branding is separated from “a world in which social institutions and physical arrangements are plaited together in an intimate grip” the more free it will be to influence the landscape identity suitable for marketing purposes. But what will be the result? An area as perceived by people? – whose character is the result of the action and interaction of natural and/or human factors? Here you may probably have the most difficult challenge for the Landscape Convention in the future. To meet that challenge you really need to mobilise all aspects of landscape science, planning and management, and destroy the fruitless division of the landscape concept into a physical and a mental part.

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