Chapter 13
Restructuring the Urban Landscape: A "Critical Reconstruction" of Permanent Structures in Historic Cultural and Urban Landscapes

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This study focuses on an important aspect of sustainability: the permanence of the spatial structures in urban and landscape fabrics, which hosts such qualities as social identity and cohesion, cultural heritage and scope, and resource saving and conservation, or in other words, social and ecological stability and resilience. These qualities are bound to site-specific spatial forms. To shed light on the relationship between sustainability and spatial form, the paradigm changes in the European urbanistic discipline are reviewed. These experiences are then transferred to the contemporary challenge of improving the social and ecological qualities of (sub) urban landscapes.

13.1 Dissolution of the City and Landscape

For almost one century, the so-called European city has been in a process of destruction. Starting in the late period of industrialization at the turn of the 20th century, modern architecture and city planning aimed at the dispersal of grown, dense, and mixed city structures. Initiated by utopian models, such as Ebenezer Howard's Garden City of Tomorrow (1902), Bruno Taut's Alpine Architecture (1919), and Le Corbusier's Charter of Athens (1933), the new model called *Stadtlandschaft* meant the dissolution of the city into an endless park that imitated "untouched" landscape. Enforced in many cities by and after World War II, the urban functions of habitation, labor, and leisure became spatially separated; boroughs were cleared up into settlements floated with light, air, and sun; and common road networks were rebuilt into car-friendly traffic systems. The result was a total loss of the historic urban structures. Berlin is an ideal example (Figs. 13.1 and 13.2),

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F. Wang and M. Prominski (eds.), *Urbanization and Locality*,
DOI 10.1007/978-3-662-48494-4_13

Fig. 13.1 Ground plan of the inner city of Berlin, in 1940 after World War II (*Source* Senatsverwaltung fuer Stadtentwicklung Berlin, 2000)

Fig. 13.2 Ground plan of the inner city of Berlin, in 1989 after modern renewal (*Source* Senatsverwaltung fuer Stadtentwicklung Berlin, 2000)

as the largest city in Germany. The city considered the total demolition and reconstruction of its complete structure. The medieval, baroque, and Wilhelminian city was blown up house by house, street by street, and quarter by quarter.

However, the landscape, at least the "untouched" parts, did not survive the functionalistic revolution. The European Cultural Landscape, widely the result of a "conquest" (Blackbourn 2006) of nature since the 1750s, was conquered by the process of industrialization. The use of land, especially agricultural land, intensified, the soil fertilized, and the fields machine oriented. Large infrastructures, such as highways and canals, cut through the land. As in the cities, the historic rural structures of the fields and meadows, ways and ditches, and villages and manors, were transformed into functional and homogeneous systems.

In between the dissolving cities and industrialized landscape, suburbia arose: not as an endless park, but as an endless sprawl, formless, unsustainable, and without identity. Although such areas were in many respects optimized for people's needs, they nonetheless feature a dramatic lack of social, ecological, and aesthetic qualities.

13.2 Critical Reconstruction of the City

However, beginning in the 1960s, the urbanistic discipline started to criticize the modern, functional separation of the city, as seen in Jacobs (1961) critique of the deterioration of neighborhoods, Aldo Rossi's manifesto for an urban architecture (Rossi 1966), and Sennett's studies of public space (1974), to name a few. They confirmed empirical discoveries of the social, economic, and environmental benefits of a carefully renewed European city in its historical context, structures, and textures.

The "critical reconstruction" in this sense was an interpretation by a part of the architectural and urbanistic profession of the critical theories of science, policy, and planning of Theodor Adorno, Jürgen Habermas, and especially Karl Popper in his notion of Critical Rationalism. To these experts, the city should not be rebuilt according to dogmatic paradigms but by a principle of trial and error, in small steps, performed with care. Integrated in the historic city textures, a pluralistic society and architecture could be developed beyond the danger of a new urban disaster.

The crucial turning point was the International Building Exhibition (IBA) in Berlin in 1984–87. Its program on critical reconstruction has been, more or less, openly admitted and generally accepted as the guiding principle in an overwhelming number of European cities since the 1990s. Critical reconstruction does not mean the restoration of the living conditions or power structures of the old town. On the contrary, it refers to the liberation of town planning and urbanism from the reckless ideologies of demolition and context-less renewal. The bourgeois European city, as a residential and living place, was thus rediscovered. Its social and ecological qualities, lower land and resource consumption, open and tolerant civilization, and immense power of integration should be lifted in a new social contract, a "third city contract" (Hoffmann-Axthelm 1993).

Critical reconstruction involves a careful renewal of historic forms, but not of their functions or meanings, and a reduction to a few, historically successful and simultaneously changeable types, such as parcel and building blocks, yards, streets, and squares. These structures are not bound to a particular function but to a permanent urban form: the urban "tissue" or "texture." This European urban texture saves resources, and facilitates social integration and civilization by defining high social density and mixture, short distances, and clearly defined private and public

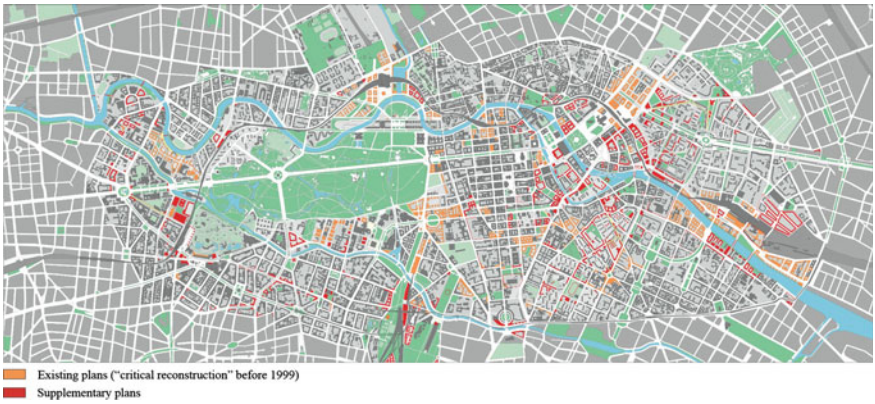

Fig. 13.3 Berlin master plan for critical reconstruction (Planwerk Innenstadt 1999)

spaces. The 1999 Berlin masterplan for the inner city consequently implemented the critical reconstruction approach into the modern urban landscape of Berlin (Fig. 13.3).

The renewed paradigm of the dense and mixed European city today has also been adopted in city expansion projects in the so-called suburban areas. There, however, where no former urban structures exist, critical reconstruction seems to be meaningless. What remains or emerges are the permanent landscape structures. As examples of landscape use to provide structure in suburban spaces, two different approaches of urbanists and landscape architecture are described by the following example of Munich.

13.3 From Landscape to Green System: Town of Cold Air Dynamics

As a typical process of suburbanization in the 1980s, the Munich airport was translocated. The Bavarian State decided to develop a large airport hub in marshlands 40 km north of Munich. The out-of-use airfield at Munich Riem, already surrounded by mushrooming suburbs, was transformed into a so-called trade fair city. A third of the development area was used for a new trade fair, another third for a new urban residential area and commercial center, and the remaining part was designed into a large park of about 2 km^2, the third biggest park in Munich.

How could a new town be built in open spaces, surrounded by unplanned settlements, leftover fields, and new highways? In the early 1990s, the discussion

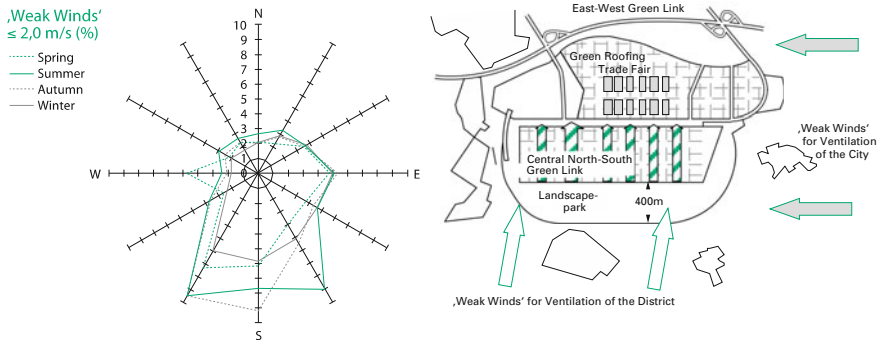

Fig. 13.4 Munich-Riem: The town of cold air dynamics (Landeshauptstadt München (1995)/ transl. by the author)

on ecological urban renewal in Germany focused on air pollution (smog). Despite advanced pollution control regulations for vehicles and industries, the city decided to align the standards in the new city of Riem with urban climate demands, especially in such weather cases as low winds and atmospheric inversion (Fig. 13.4). The belief was that the city and landscape could merge in a structure of green and road strips that strictly followed the prevailing wind direction for "weak winds" and flows of cold air, to lead the airflow into as far as the inner city and new settlements as well. In fact, the structure was planned according to a standardized system of rectangular axes. Even the borders between public and private spaces were formed by this system and by a "graded system of open spaces" but not as an urban "texture." This functionalistic approach led to a strange, alien structure that was neither bound to the historic shape of the former airport nor to that of any other existing structure. In spite of a pressing housing shortage in the Munich region, the demand for houses in the new settlement was comparatively low.

13.4 From Green System to a Critical Structuralism: Park Without Boundaries

Based on this master plan for the city structure, the competition for a new large park was opened for bidding. The winner was the French landscape architect Gilles Vexlard. In contrast to the "landscape-functionalistic" city master plan, his approach can be called "landscape-formalistic." Simply said, he did not design a park but a landscape that could serve as a "structure-giver" not only for the new trade fair city but also for the surrounding suburban landscape as a whole.

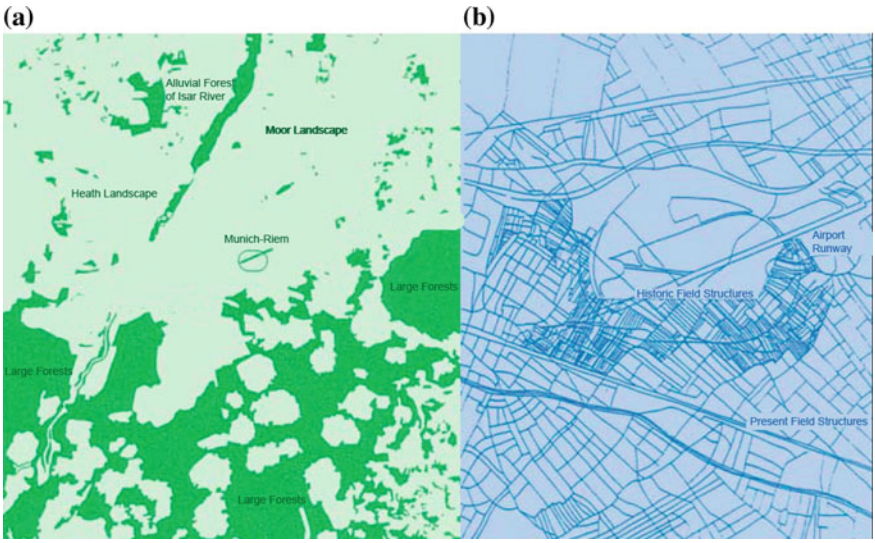

Fig. 13.5 Forests, clearings, and heaths around Munich (**a**), historic field and airport structures at Munich-Riem (**b**) (Gilles Vexlard)

> "Work begins on the context, the scale of a place, its morphology, and the landscape in which it is integrated. The geographical shape of a place for me is like a historic monument. The work in one place is unique because the landscape into which it is integrated is unique. It means to find out what is specific of a place, to work it out, and to get rid of any disruptive elements. We try to lose as little of the concept, design, and implementation as possible, and to rid a place of all that obscures the readability of its landscape and uniqueness. The difficulty in the work of landscape architects is as follows: To show and communicate these encountered qualities, the basic essence of a place. Discipline, determination, and experience are needed to preserve the qualities of a place, from conceptualization through realization, and simultaneously, to anticipate future developments". (Vexlard, transl. by the author).

Vexlard's concept took up the local situation, which is on a regional layer in the junction of the two large-scale landscapes of Munich's surroundings: the forests with large clearings in the south and the cultural landscapes with heath and grasslands in the north. On another layer, he deduced the diagonal structure from the former field boundaries of the area, before it was used as an airport, and rebuilds them as axes in the park (Fig. 13.5a, b). The spatial structure also guarantees cold air dynamics but performs another function as well. The axes have no beginning and no end; they point out to the suburban landscape. By this, not only did Vexlard create a park structure on a grand scale but a framework for the (sub)urban landscape in the surroundings. Vexlard intended to develop parks neither simply for "ecological system service" nor for horticultural quotations or as guidance systems for pastimes but as part of a landscape that would re-connect everything. Beyond park boundaries, the suburban residential landscape offers integration (Fig. 13.6).

Fig. 13.6 Munich-Riem, 2014, http://geoportal.bayern.de/bayernatlas

13.5 From Suburban Green Belts to Urban Landscapes Full of Character: Long-Term Urban Development in the Munich Region

Two decades later, the population growth in the Munich region is, compared with the overall development in Germany, is dramatic. Despite significant efforts in inner-city densification, half the growth is expected to take place in the outer region. To discuss alternatives to typical suburban sprawls, a design studio with students in landscape architecture at the Technical University of Munich strikes a new path.

The students were expected to understand the Munich region not as suburban periphery or even green belt of the center but as distinguished landscapes full of character, as equal partners. In reference to place-specific historic, permanent forms of landscape and settlements, "settlement-appropriate landscape" and "landscape-appropriate settlements" were designed. In a first step, the students identified the different landscapes around Munich (Fig. 13.7). The gravel plain of Isar River with Munich in its center is surrounded by different landscapes by young and old moraines of several glacial periods. They are surrounded by large forests, grasslands, heath lands, and lakes, as well as by extremely different settlement structures. Within the suburban sprawl, old villages still serve as ideational centers.

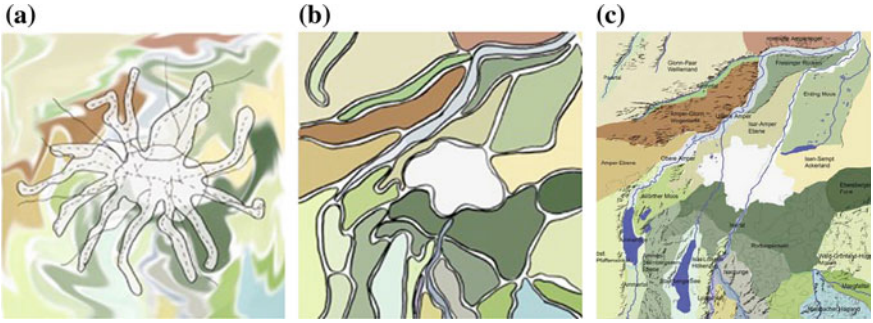

Fig. 13.7 From generic periphery to distinguishing landscapes: the city as an octopus (**a**), the city as a landscape among others (**b**), landscapes named as brands (**c**) (Herrmann, Sihler, Sojka, TUM LAREG 2014)

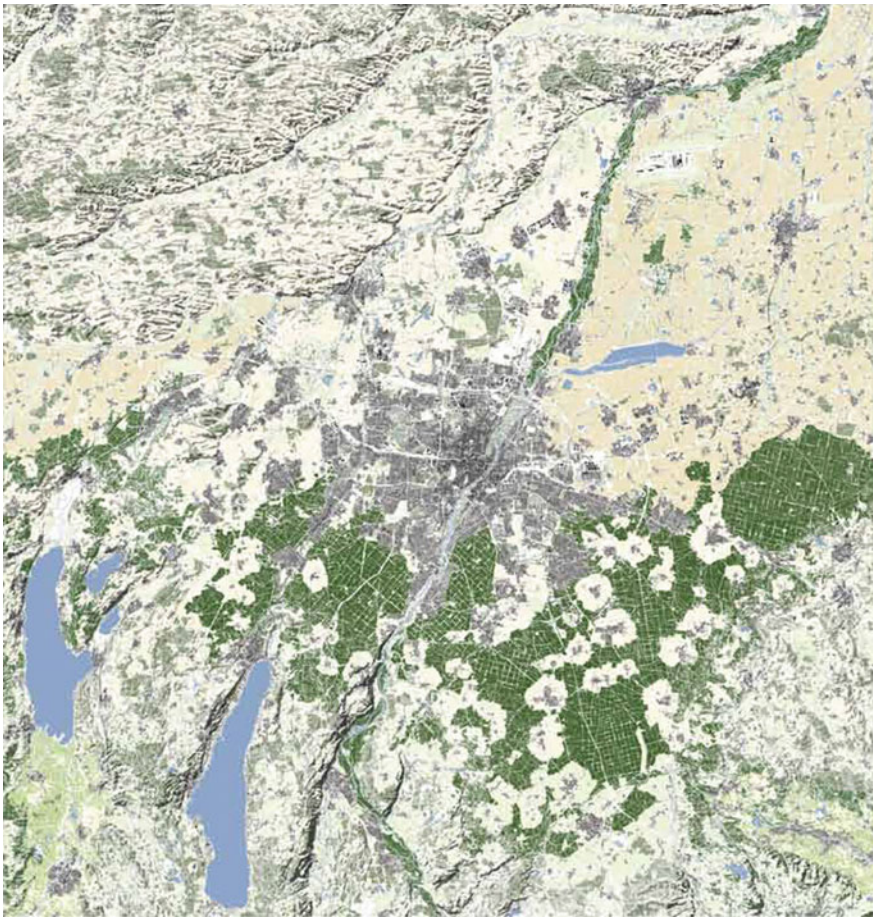

Fig. 13.8 Landscape morphologies and textures, settlement typology (Herrmann, Sihler, Sojka, TUM LAREG 2014)

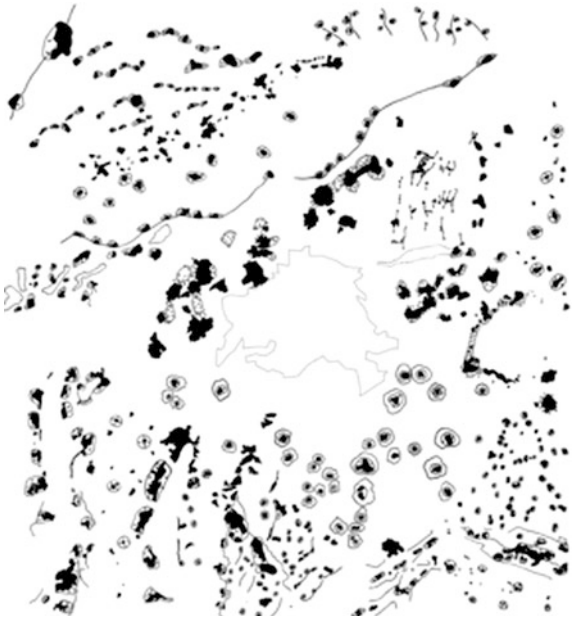

Fig. 13.9 Typology of settlement patterns (Herrmann, Sihler, Sojka, TUM LAREG 2014)

The students worked out the site-specific spatial elements and structures by highlighting differences but without distinguishing between "beautiful" and "ordinary" landscapes (Fig. 13.8). Then, they created a typology of site-specific settlement patterns (Fig. 13.9). As a result, they conceptualized a landscape-oriented spatial

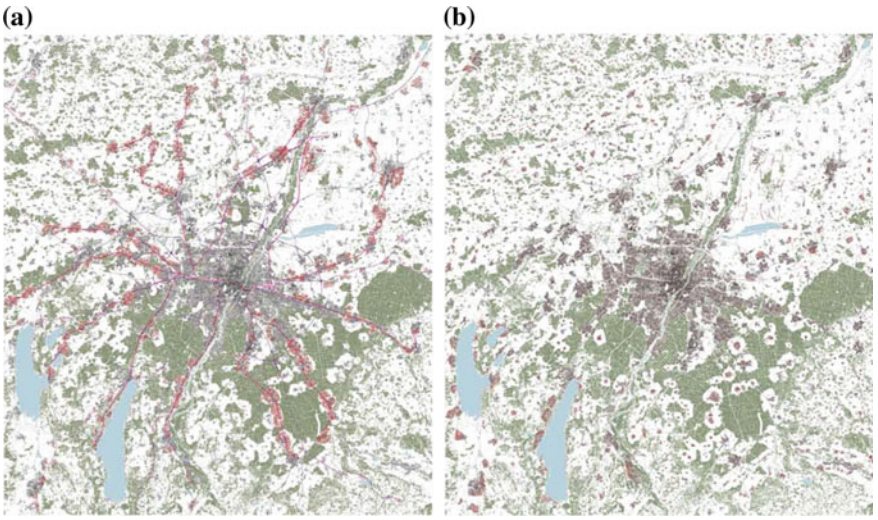

Fig. 13.10 State of radial development along railways (**a**), landscape-oriented alternative (**b**) (Herrmann, Sihler, Sojka, TUM LAREG 2014)

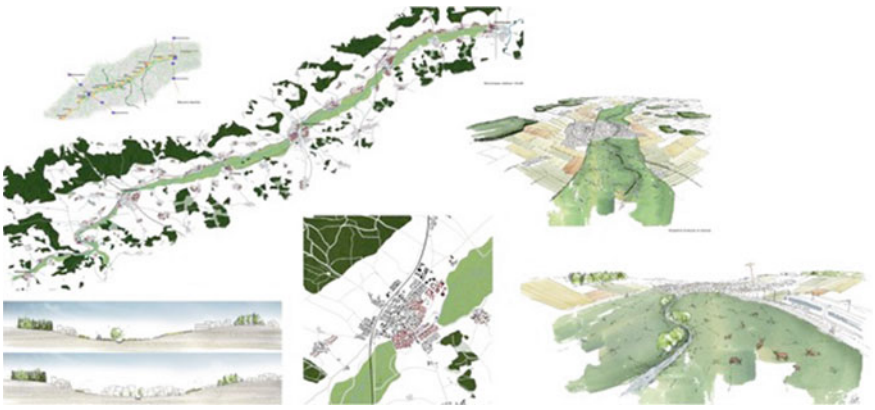

Fig. 13.11 Examples of existing (*black*) and new (*red*) landscape-oriented settlements (Herrmann, Sihler, Sojka, TUM LAREG 2014)

structure of settlement expansions alternative to the state of radial development of settlement corridors along the railway systems (Fig. 13.10). For a selection of sites, they conclude with examples for settlements expansions appropriate to the historic village and cultural landscape patterns (Fig. 13.11).

13.6 Restructuring Urban Landscape: A Critical Reconstruction of Permanent Structures in Cultural and Urban Landscapes

In conclusion, the urbanistic model of a critical reconstruction of the European city might be transferred into urban landscapes, if elements or modules and structures or forms of the historic cultural landscape serve as structure-givers for all the buildings, infrastructures, and land uses that conquer the historic landscapes and cities and turn them into urban landscapes. The land is not a blank foil. "A 'place' is not a given but the result of condensing. In countries where humans have been present for generations, a fortiori for millennia, all territorial accidents are significant. To understand them is to give oneself the chance of making a more intelligent intervention. (…) it is in fact evident that the foundation for planning can no longer be the city but that territorial reserve to which it must be subordinated. It is equally true that development can no longer consider only quantities but must acquire an additional dimension of integrating the shape of the land into design" (Corboz 1983).

As seen in the examples, cities as well as historic cultural landscapes are often rich in visible and hidden elements and structures (Table 13.1) that can serve different functions over time as well as initiate coherence and sustainability in the

Table 13.1 Elements and structures in cities and cultural landscapes that offer permanence to new developments in urban landscapes

PERMANENCES	City	Cultural Landscape		Urban Landscape
ELEMENTS OR MODULES *that can serve for different functions over time*	▪ plot, block, quarter … ▪ courtyard, street, square, promenade … ▪ centers, areas, … ▪ walls, ditches, canals, viaducts …	▪ land lot, farmyard, type of village … ▪ markets, fairgrounds, public pathways, local connections, commons … ▪ shore, beach, edge … ▪ terraces, alleys, fruit gardens, fields with barns, monasteries … ▪ ditches, walls, dikes, channels …	→	Buildings, infrastructures and land uses to be restructured by a *critical reconstruction*: ▪ suburban settlements ▪ business parks ▪ agricultural land ▪ nature reserves ▪ brownfields and wastelands ▪ highways, railway lines ▪ wind farms, solar fields ▪ overhead power lines ▪ …
STRUCTURES OR FORMS *that can initiate coherency and sustainability (identity, difference, integration, hospitality …)*	▪ 'translucency' of the landscape morphology ▪ historical ground plan shapes ▪ fabric of the public open space ▪ building alignments, maximum eave lines, parceling…	▪ massive morphologies of the natural landscape: relief, vastness … ▪ fine structures of the cultural landscape: textures, grids, networks … ▪ historical public rights and ownership structures … ▪ meaningful places: visual axis, landmarks, panoramas …		

permanence of spatial form. Stability, resilience, identity, difference, hospitality, and integration are the crucial qualities of ecological, social, economic, and aesthetic societies.

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