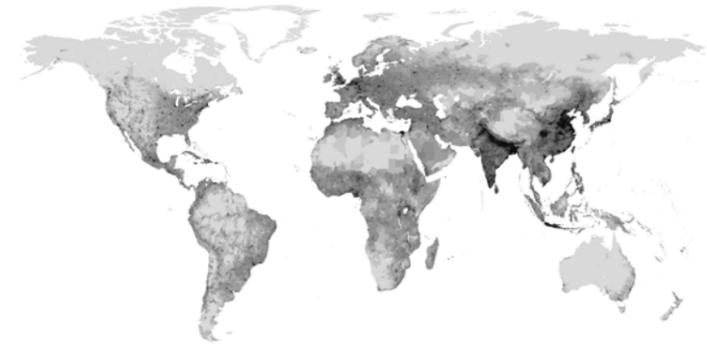


URBAN DESIGN IN THE AGE OF THE ANTHROPOCENE

Facing demographic shifts, climate change and finite resources

Kees Christiaanse and Michael Wagner

A close look at the urbanization of the planet today reveals that most people live in sub-, peri- and exurban areas. Complex infrastructural networks interweave villages, agricultural zones, cities, forests, commercial parks and dispersed settlements into urbanized territories all over the countryside. This medium dense form of contemporary urbanization had never come to existence without the extensive individual mobility that emerged in the second half of the 20th century on the basis of low priced and seemingly inexhaustible fossil fuel. This is the urban form one is dealing with when discussing future challenges for urban planners and designers. Extensive commuting, the fusion of rural and urban as well as superimposed scales of interrelationships make the situation even more complex. And the demographic and socioeconomic changes of an increasingly cross-linked global society additionally amplify this process of urbanization.



Global population density

The urbanization of the landscape Considering their ecological footprint, developed nations of the West claim a bigger part of the planet's surface per capita than they are entitled to. Consequently, land use needs to be thought over more consciously in the future, especially for the production of renewable energy. But not only the populated landscape is increasingly shaped by urban modes of operation. The superposition of manifold activities renders the open landscape more and more urban as well. Particularly transforming lifestyles result in more intensive use of landscape. Leisure activities in Switzerland, for instance, are responsible for more than 40% of overall traffic today. Farmers complain about littering along hiking trails and traffic conflicts with horseback riders or mountain bikers. In the traditionally compact and dense city cores sophisticated building laws and licence agreements have been developed and negotiated over the centuries to allow the coexistence of a broad variety of activities. This legal groundwork is one of the basic foundations of the cities' urbanity. Such negotiation processes will have to be conducted for the entire territory, including the uninhabited areas, in the future.



Medium dense urbanisation (Rhine valley close to the lake Constance)

Open territories The mentioned global trends of the past decades, presenting the challenges for the future, are studied and well known. Rather than showcasing blatant utopias, it is more necessary than ever to develop concrete design approaches for the transformation of the urbanized landscape into regenerative territories, maintaining a high quality of life. Closing resource and energy cycles is the order of the day. But certain self-sufficient eco-cities, local energy networks or closed loop recycling management systems run the risk of excluding the non-involved or non-paying others. Responsible designs for future open territories should therefore exemplify their potential to accommodate socially democratic collectivities based on individual freedom, the division of labour, specialization and plurality.

A ubiquitous understanding of today's territory Everything shaped by humans is culture; this includes the territory. Cultured landscapes emerge through the constant interaction of humans with nature. Their regional differences are due to natural conditions and increase with growing technological development. With this holistic concept of the 'Kulturlandschaft' we propose to consider built as well as non-built areas as ONE continuous culturally shaped landscape.

The challenge in the future is to design and develop sustainable concepts based on the implementation of renewable energy production for these territories in order to provide enough living space, employment and a high quality of life for the entire population. Thereby architects, planners and urban designers play an important role: The building stock in Europe is accountable for a major share of the energy consumption with construction being the most resource consuming human activity. Its orientation versus regenerative principles is therefore not just a marketing strategy but rather a social necessity in the long run. Additionally, spatial and strategic design is a powerful tool to test and negotiate future developments with the various players involved.



The Swiss condition Due to its topography, a wide area of Switzerland is not habitable. And while the population is still growing (although all forecasts for the developed world point to a stagnation in middle terms), high pressure persists on the arable fields of the lowlands and the bigger valleys. The so-called 'Mittelland', that comprises a vast hilly zone between the Lake Geneva and the Lake Constance, as well as the big valleys that stretch far up into the Alps are excellent examples of the medium dense urban territories mentioned above. The few larger cities like Zurich, Geneva or Basel are all located within the 'Mittelland' and have developed into a large polycentric urban network over time. The majority of Swiss economical, agricultural and cultural value is generated here: The headquarters of big companies, most of the educational, cultural and administrative facilities as well as the most fertile land are concentrated on this third of the country's surface. The Swiss government assumes that four fifth of the population live in these urban environments. Besides those, peripheral settlements are dispersed.

But even there, urban living conditions shape the daily life of most people. As in many western countries, the agricultural production in Switzerland is not profitable and depends on high subsidies in order to guarantee a minimal self-sufficiency in food production. For these reasons, splinter development accelerated over the past decades and became a widely perceived issue, first only among planners, but little by little also for large parts of the general public. This continuous reclamation of land is attended by the sensation of a general loss of nature. The desire for being part of nature and its ruler at the same time, and the resulting loss, turns out to be a fundamental contemporary dilemma. However, the landscape has always been subject to perpetual change. It was only after World War II that its transformation took a pace allowing even individuals to experience massive changes during their own lifespan, whereas beforehand these rather took generations to come into existence. Planners, designers and political decision makers are equally challenged by this phenomenon. How could altered modes of production be implemented and be mediated comprehensively



to a larger public? Furthermore, all villages, small towns and dispersed settlements in these urban territories hardly respond to the concepts of traditional urban design and planning. The reason for this is their morphological difference from the traditional compact city cores. Alternative approaches have to be found to develop these urban landscapes.

A holistic design approach

Planners need to become able to act as strategic designers of the 'Kulturlandschaft'. A broad variety of geographical, environmental, social and economical conditions and necessities have to be taken into account. For such a holistic approach the following simple set of principles should be helpful:



Taking the landscape as a point of departure

Its manifold topography and ecology are key qualities of Switzerland. In large parts, its territory has been man-altered over the centuries. The starting point for every urban design approach should be considering the man-made landscape as an integral component of the urban territory. For that purpose, contemporary productive utilization of land is indispensable and should be facilitated in the long run. Sensitising all involved actors for the cautious handling and advancement of the spatial qualities of new productive landscapes is an essential ingredient for the development of a sustainable future.

Responding to specific local conditions A broad variety of different landscape typologies can be found in Switzerland's 'Kulturlandschaft'. This diversity, together with the prospering economy, is one of the main reasons why the country is so attractive for many visitors and immigrants. But its success is also at risk to become its own adversary. How can one bring these opposing trends in line? Quality management is an intriguing challenge under such conditions. Universal regulations hardly result in outstanding solutions, whereas fragmented makeshifts risk unfair treatments of different actors and groups. For this reason, specific regional approaches should be fostered that allow adapted answers to local conditions without losing superior perspectives. The cultivation of diversity renders the environment to be more resilient and attractive.

Implementing robust long-term strategies To steer and orchestrate upcoming tasks such as infrastructure renewal, settlement densification and self-sufficient energy and resource supply, long-term strategies are needed. Within the federal political system of Switzerland the municipalities enjoy large autonomy with respect to spatial planning. Taking this responsibility seriously, there is a high potential in quality development of the 'Kulturlandschaft'. But many municipalities are overwhelmed with this mission. Notably, it is difficult to arrange political acceptance for long-term planning strategies.

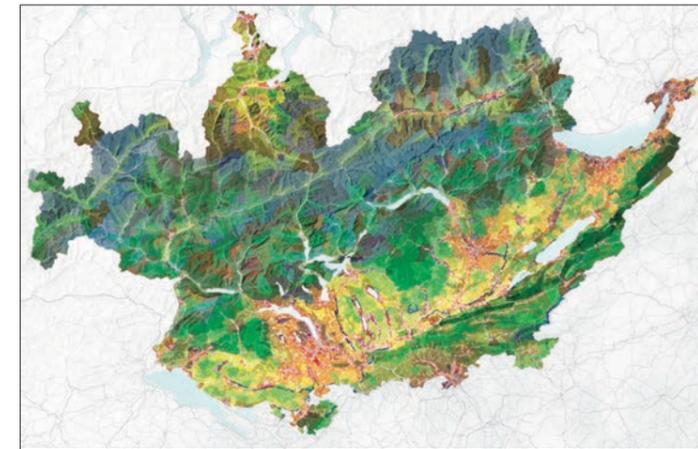
Involving players and creating synergies

Involving important local protagonists and interest groups into the design process already at an early stage is crucial for the future acceptance and, thus, success of projects. Local know-how can be of great help in analyzing the deficits and potentials of a region. It facilitates addressing the relevant topics. Providing promising development possibilities for a broad range of actors assures the necessary support for implementation and guarantees their identification with the common goals in the long run.



Aiming for regenerative territories The capacity of regeneration based on own renewable resources, be those human, financial or material, plays an important role in the future resilience of a territory. But their complexity often makes it difficult for non-professionals to rate the relevant proposals. Planners and designers are therefore responsible to offer and visualize comprehensible options to decision makers and inhabitants in order to allow well-considered decisions. The openness for experiments provides valuable insights into possible futures that sometimes seem difficult to achieve at first but could deliver exactly the missing pieces for regenerative open territories that allow worthwhile development possibilities for everyone.

All photographs copyright by Marc Latzel, Zurich



Switzerland KULTURLANDSCHAFT

KULTURLANDSCHAFT is one of the main fields of research at the Chair of Architecture and Urban Design of Professor Kees Christiaanse at the Institute for Urban Design of the ETH Zurich. Applying transdisciplinary concepts at the interface of teaching, research and practice, its team under the direction of Michael Wagner investigates how incentives for sustainable development strategies for low to medium dense urban territories can be created with a focus from within the landscape. One of the goals is to activate synergies through the coordination of different stakeholders in order to develop robust strategies for the design of context-sensitive spaces with high living quality.

Contact Michael Wagner, wagner@arch.ethz.ch

With the kind support of

ETH zürich
swiss arts council
prohelvetia

DARCH
(SEC) SINGAPORE-ETH CENTRE

NSL Netzwerk Stadt und Landschaft
Network City and Landscape
(FCL) FUTURE CITIES LABORATORY