

Floodscapes

Contemporary landscape strategies in times of climate change

Frédéric L.M. Rossano

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Examiners: Prof. Christophe Girot (ETH Zürich) and Prof. Em. Dirk Sijmons (TU Delft)

Humankind's relationship with flooding is a dual story of fight and symbiosis. It oscillates between the angst for destruction, deeply rooted since the oldest Mesopotamian deluge tales, and the adaptation mores developed to turn plains and valleys into rich, inhabitable, and cultivated landscapes. For millenia, populations living in fluctuating floodplains have developed ways to divert and exploit flooding processes, taking advantage of the shores' and valleys' malleable topography. Partly seasonal and controllable, partly unpredictable and destructive, flood has forced territorial, technical, and political inventiveness. The ancient Frisian mounds built to safely inhabit the North Sea tidal plains, the French *turcies* built along the Loire to slow down the flood waters and collect their rich alluvium, the Italian and Alpine *colmata* techniques catching rivers' materials to build steady land, are vivid examples of this adaptability. European floodplains today still show this combination of flood-made and man-made landscapes, revealing a long history of cultural and spatial negotiation.

The Enlightenment, however, changed this paradigm, and, since the seventeenth century, the belief has grown that technique could solidify landscapes into stable constructions, emancipate humans from riverine fluctuation, and guarantee an endless exploitation and permanent urbanization of floodplains. Pious fear and temporary arrangements have made way for massive river corrections and land reclamations, supported by a Promethean vision of flood management. The joined forces of empowered nation-states, positivist philosophy, and increased engineering knowhow have constructed a common belief that technology would ultimately tame the waters for good, and provide a forever stable living environment. The radical landscape transformations that followed fueled Europe's agricultural and demographic surge in the nineteenth and twentieth century, but also began a presumptuous cycle of ever-rising levees and growing flood exposure up until the present.

At the turn of the millennium, the global enterprise of damming, reclamation, and drainage reached its maximum level in Western Europe. Within the context of fully exploited floodplains, containment techniques had generated growing exposure and increasing costs, giving rise to doubts among funding institutions. The effects of channeling on local and supranational ecology were everywhere visible and lamented. Furthermore, the sustainability of solutions that were engineered for fixed discharge thresholds and water levels was challenged by the uncertainty of future climate evolution and sea-level rise. As a result, horizontal strategies were simultaneously developed and implemented in countries as diverse as Switzerland, Germany, France, and the Netherlands, with similar ambitions: bringing elasticity back into landscapes "petrified" by centuries of "hard" engineering, in order to accommodate and mitigate natural fluctuations of large amplitude that cities alone will not be able to withstand. This represented a historical turn from pseudo-permanent solutions towards dynamic approaches; it also implies for West-European landscape to be again radically transformed in the coming decades and centuries, possibly at a scale

and a pace comparable to what was seen during the industrialization era. The spatial strategies developed in the last decade of the twentieth century are now translated into large-scale landscape programs and projects: Next to flood defense appear projects of floodplain restoration, river widening, flood deviation, and flood mitigation, often implying a radical redefinition of risk and land use. The motives and the implementation of these new spatial strategies however differ according to the national and local context.

Six key projects located in the Alps and in the Rhine-Meuse Delta illustrate how various flood-mitigation measures (temporary of permanent retention, flood diversion or diffusion) can be combined with landscape redevelopment involving agriculture, recreation, nature and even urban growth. These combinatory enterprises have crucial ingredients in common, and they all incorporate spatial design at various stages, creating negotiating platforms for all qualified parties. As this research reveals, the adaptation of inhabited landscape is highly specific, historically, geographically, and culturally, and dependent on economic and political ups and downs. Yet the pioneering work done in the past twenty years should be exploited to reflect on the modus operandi that can lead to consensual and successful transformations, and allow landscape architects to play a prominent role in future transitions. Increasingly, processes and fluctuations are the core objects of landscape design: Beyond Promethean ambitions, symbiotic dreams, and science fiction, negotiated solutions between natural forces and human interests should be the focus of our research and practice for the present and the near future.

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Contact: rossano@landscape.eu