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HOW INFRASTRUCTURE CAN SUPPORT AND DESTROY THE PUBLIC DOMAIN OF THE CITY

REFLECTION

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Triumph of the City is a famous book by Harvard professor Edward Glaeser, describing the city as the most important engine of prosperity, economic development, culture and innovation. The invention of cities was the best thing mankind ever did (Glaeser, 2011).

In general, Glaeser is right. Looking to the long-term development of cities, we see not only a growth in size and population, but also a substantial improvement of prosperity and the quality of life. People live longer, have fewer diseases, have higher income, more free time, more possibilities to enjoy life. This improvement of the quality of life stimulates the economy, because happy people are more productive than sad people. In turn, the stimulated economy improves the quality of life, and so on. Cities are not only the result of a growing economy; they are also the condition for on-going innovation and economic development.

However, if you take a closer look at the development of cities, you will see that the time-line is rather capricious, with many ups and downs. Some of these ups and downs are caused by influences that are difficult for city authorities to manage, like worldwide economic crises or natural disasters. But a lot of the ups and downs are certainly the result of interventions by local authorities, planners, designers and engineers. A recent example of a substantial downward direction in the development of cities was the period of the 1950s and 1960s. That is striking, because it was a rather optimistic period, leaving behind the horror of the World-War II, with growing national economies and the promise of a prosperous new future, which also included a substantial modernization of our cities. The dominating policy of modernization was based on the ideas of the Modern Movement, advocated by famous architects like Le Corbusier and Sigfried Giedion (Giedion, 1941). Their plea was to make cities more spacious by a new balance between large open spaces and built volumes (mainly tower-buildings), and to make cities more accessible by introducing new infrastructures for traffic and transport like highways and subways. For the Netherlands, we can add: making cities safer by building new flood defense structures.

The strong emphasis on new infrastructures resulted in the construction of large-scale motorways, often cutting straight through urban fabrics, destroying many neighborhoods, and separating the parts which were left over. Dutch river- and seaside cities were given large-scale dikes, considered especially necessary after the disastrous flood in the southwest of the Netherlands in 1953. It is true that these dikes created more safety against floods, but they also blocked the relation of originally water-oriented cities with the river or the sea. In Rotterdam, the construction of the 'Maasboulevard' in the 1950s was a combination of a riverside motorway with a flood defense structure. The city was safer and better accessible, but in the same time more isolated from the river than ever before.

The ideas and means of this modernization had a disastrous effect on cities and on the quality of life in the cities worldwide. The 1960s and 1970s show a process of shrinking cities in Europe and North-America, losing their population, economy and amenities, and descending poverty. The City of New York, considered the capital of the modern world of the 20th century, faced bankruptcy in the 1970s. Also in the Netherlands, cities like Amsterdam and Rotterdam lost more than 25% of their population between 1965 and 1985. Instead of places of triumph, cities became places of poverty, decay and crime.

A big U-turn in urban policies started in the 1980s. Urban revitalization became the number 1 priority in many political agendas worldwide. The megalomaniac ideas of the Modern Movement were rejected; designers, planners, and engineers started to collaborate in order to find new ways of combining urban renewal with new types of large-scale infrastructure. Cities like Barcelona, Paris, New York and San Francisco were front-runners in exploring new spatial concepts, which decreased the dominant role of large-scale infrastructures in the urban environments and paid more attention to the design of attractive urban spaces. People started to like city life again. The population figures of cities turned from shrinkage to growth.

In the Netherlands, this urban renaissance started with new waterfront projects like the Kop van Zuid in Rotterdam and Eastern Docklands in Amsterdam. The vacant waterfront areas, left behind by the port-industry in the 1970s and 1980s, created a great opportunity to restore the city and re-orient it to the water. The presence of water, the view on the water, and the use of water for public transport were discovered as some of the most important trump cards of Dutch cities. Also in the next future, more waterfront areas will be redeveloped, for instance the more than 1000-hectare 'City Ports' in Rotterdam.

Figure 1 (right). Construction of the new flood defense 'Maasboulevard' in Rotterdam, 1955. (Photo by J.F.H.Roovers)

Figure 2 (below left). 'Kop van Zuid' in Rotterdam still in use as port area, 1975. (Photo by Aerocamera Hofmeester)

Figure 3 (below right). 'Kop van Zuid' in Rotterdam after transformation to a new central business and residential district, 2013. (Photo by Aeroview Dick Sellenraad)

From this perspective, a change of attitude concerning flood defense systems was and is crucial. Flood defense systems can make or break the relation between city and water. The new Delta program of the Dutch government addressed the need to update the whole national flood defense system, in order to maintain safety in the future. The necessity to pay attention to spatial quality, and to integrate new flood defense structures in the urban context is clearly mentioned in the Delta program (Ministry of Infrastructure & Environment, 2015).

But mentioning and applying are two things. That is why this research program on multifunctional flood defenses (MFFD) can be considered extremely important. The technical and spatial possibilities of combining long-term flood safety and spatial quality are crucial for all river- and seaside cities. The MFFD research program is not only important because it shows several possibilities for this combination, but it is also important as an expression of a changing culture in science, design, and engineering. Instead of emphasizing the autonomy of each scientific discipline, which was the dominant model during the period of modernism, this research program is a substantial contribution to a closer collaboration among different disciplines, creating a culture in which academics and professionals with different backgrounds are looking for common solutions. This surely will contribute to a 'triumph of the city'.