English Translation

3
Introduction
3
The topicality of the urban project*
François Claessens and Endry van Velzen
6
AMS/EHAM elev. minus 13 ft ref. 52° 18' 31N 4° 45' 50E
(Amsterdam Airport Schiphol or the place to land, 1916-2006)
Filip Geerts
13
Railway station: monument versus multi-use terminal
The case of Amsterdam Central Station
Roberto Cavallo
15
'Tolerant' urban development
The aesthetics of the Raadhuisstraat in Amsterdam (1895-1899)
Ed Taverne
20
Transformation of the Bankside Power Station into the Tate Modern in London: Subversiveness of the Old
Tamara Rogić
25
Team X revisited
Henk Engel
32
About the authors

Introduction

The last *OverHolland* book focussed on the analysis of a few remarkable architectonic artefacts of the city of Amsterdam. In the fourth edition of *OverHolland*, this research into the architectonic makeup of the capital is extended to infrastructural projects. Just like other buildings, infrastructural works also manifest themselves expressly in the city as artefacts with an unmistakable physical and material presence. Bridges, dikes, overpasses and tunnels for cars, trains or subways contribute to the built-up identity of the city just as much as public buildings and residential areas. The projects analysed in this edition of *OverHolland* illustrate this view.

The main role of the design in similar urban artefacts is discussed by François Claessens and Endry van Velzen under the denominator 'the urban project'. Instead of a design and urban planning approach, which often remains abstract and vague due to its large scale, the authors make a case for an approach to urban transformation on the medium scale that works with concrete proposals open to discussion.

Next, three articles hold the concrete architectonic form of a few large infrastructural projects in Amsterdam up to the light. Ed Taverne discusses the early 20th century breakthrough of the Raadhuisstraat against the background of the attention for the city's image in the painting as well as the architecture of that era. Then, the attention is focussed on two current projects, which, given their size and significance, exceed the scale of the city by far. Roberto Cavallo analyses the current transformation of Amsterdam Central Station, which he places in a series of interventions since its original construction at the end of the 19th century. Filip Geerts lines up the developments of the ever-expanding structure of Schiphol.

This book also features architectonic interventions in obsolete industrial buildings. By analysing a few design proposals for the Tate Modern in London, Tamara Rogić attempts to formulate various architectonic approaches for dealing with existing artefacts. Finally, under the heading *Polemen*, Henk Engel gives his critical view of the recent Team X research at the Delft University of Technology, with an adaptation of the lecture delivered at the *Keeping the language of modern architecture alive* congress, held in Delft in January 2006.

The topicality of the urban project*

François Claessens and Endry van Velzen

In urban restructuring and renewal, reducing complexity simply for the sake of production is not possible. The central theme has to be about developing the qualities that are found in a city, which requires an adequate answer from the designing disciplines. The urban project can provide an outcome by strategically establishing concrete projects for specific locations in the urban area. By working this way, the explorative and binding character of the design is of major importance as much at the strategic level of the long term and the large scale as at the operational level of the concrete project. In the first case, design can bring out a variety of aspects and co-ordinate them into coherent future images. In the second case, design links spatial, programmatic and financial aspects together, while parties gain insight into the consequences of needs and wishes. Since the 1970s, however, the Dutch urban project has developed into an approach with limitations. The Southern European variant of the urban project shows how these limitations can be overcome.

The Dutch project-oriented approach

Between 1930 and 1970, The Netherlands developed a proud planning tradition, where planning stood for the equal distribution of the increasing wealth. The planning practice worked according to a hierarchical planning system of urbanism, urban planning and architecture, with residential building as one of its most important means of steering. However, because of the economic recession of the 1970s and 1980s, this planning tradition was plunged into a deep crisis. In a radical reorientation of the welfare state, characterised by pushing back major government deficits and an ideological turn in the neoliberal direction towards more market function, planning no longer served to distribute the increasing wealth, but became a booster for economic development. The Fourth Policy Document on Spatial Planning of 1988 addressed the revitalisation of cities and regions as a locality for new economic activities. The steering of spatial development through a hierarchical planning system was replaced by steering through strategic projects, which led to key projects for the renewal of cities being formulated such as the Kop van Zuid in Rotterdam, the Eastern Docklands in Amsterdam, the Céramique area in Maastricht and the railway station area in Groningen. Later, a second series of key projects was initiated, including the Amsterdam Zuidas and the railway station areas of The Hague, Rotterdam, Breda and Arnhem.[1] The change from a hierarchical planning system to a project-oriented approach also meant that design had to play a bigger role. However, this role had to be rediscovered, since creative and future-oriented designs had been neglected in the previous period.[2]

At the local level, various design demonstrations had been organised in which architecture played an important role, usually the study projects of foreign architects. Such examples include the AIR demonstrations of the Rotterdam Art Foundation: Kop van Zuid (1982) and Railway tunnel (1987). Both demonstrations were connected to concrete proposals for the renewal of the city, called upon by architectonic designs for delimited spatial-programmatic interventions at an intermediate scale level. This way, the usual planning practice of urban renewal was breached by changing the work sequence: projects were not the result of planning, but actually functioned as a trigger for the planning process due to their power of imagination. As well, other places experimented with the input of concrete proposals as a motor for

renewal. For example, in The Hague, within the scope of his campaign 'Urban Renewal as Cultural Activity' of 1985 alderman Adri Duivesteijn invited a bunch of architects to draw up urban projects for various renewal locations, and in Groningen, under the supervision of Rem Koolhaas and J.P. Kleihues, a series of architectonic interventions was elaborated for the 'Verbindingskanaalzone' (1987).

In the exhibition publication of 1990 entitled 'Verleidelijk stadsbeeld' ('An inviting urban image') Duivesteijn, as the director of the brand new Netherlands Architecture Institute, had underlined the importance of anticipating local economic and cultural potential, and building a relation between the project and the city as a whole, which supposes the availability of an urban concept that can give direction to the ideas of administrators and designers. The characteristics of such a project-oriented approach are the strategic significance of the project, the mix of functions and the public-private collaboration.[3] Yet, the definition of the project-oriented approach in the Dutch practice of urban renewal has always been ambiguous, especially when it comes to the limitation of projects in space and time.[4] For example, the varied project areas are quite often very large ones. Also, the various experimental approaches have not yet produced a dominant operational model for these areas. For this purpose, Harm Tilman identified at least four different design approaches, each with a different relation between programme, architectonic performance, morphological embedding and urban management.[5] Above all, in line with Dutch tradition, this form of urban renewal was mostly seen as an exercise in residential building, of which the public share in the form of public space facilities is just a part.

Many of the projects that were started since the Fourth Policy Document are still in progress, such as the Kop van Zuid in Rotterdam and the Paleiskwartier in 's-Hertogenbosch.[6] The project areas are so big that the lead-time often seems uncertain. This kind of project is usually divided into different realisation projects, where planning steers the development. Within the project-oriented approach, the old hierarchical planning system crops up again. However, the top-down approach from programme to design is hard to keep up in the complex situation of inner-urban development, since diverse interests constantly have to be co-ordinated. Under the motto 'calculate and measure', the architectonic/urban planning design plays an important role. At the same time, the concrete architectonic/urban planning manifestation of the project is purposely kept vague due to the programmatic and time variation of the whole. In practice, this gap is filled with the general notion of 'spatial quality', elaborated as 'spatial scopes', 'reference images' and 'image quality plans' relatively separate from the programme that makes up the draft of the exploitation. However, these outlined movements offer a false sense of security, because once the realisation project is actually started, the quality, programme and exploitation do not seem co-ordinated and cause all kinds of misunderstandings and delays.

In Southern Europe, where the political and economic situation was very different from The Netherlands, the project-oriented approach managed to develop into a fine tradition. Due to property relations, steering through residential building like in the Dutch urban renewal practice of the 1970s and 1980s was not an option in Spanish and Italian cities. There, public functions were the gateway to urban renewal, with an emphasis on public spaces and facilities. Here, the urban project was primarily defined using architectonic design as a concrete urban intervention. The theoretical basis of this operational model was first developed in Italy and then successfully adopted by the Spanish urban renewal practice.

Architecture of the city: the Italian school

In the 1960s, Italy brought about an important change in modern architecture, which did not differ very much as a stylistic criticism, but rather as a different interpretation of the relation between architecture and city. Within the CIAM, research into the city was mainly conducted based on the public housing issue, where residential building was seen as the architectonic substance of the city. In Italian Post-war urban research, which was internationally known as 'typo-morphology', this unilateral fixation was purposely left out in favour of a broader analysis of city architecture. While in The Netherlands building was done using the starting points of the 'Charter of Habitat' congress (CIAM IX, Aix en Provence, 1953) and people continued to study the city from the perspective of residential building, in Italy people continued to work on the theme of CIAM VIII, 'The Heart of the City' (Hoddesdon, 1951).[7] It was in Aldo Rossi's book 'The Architecture of the City' (1966) that this change in architectonic thought on the theoretical city was suggested and supported.[8]

The main assumption in Rossi's analysis of the city's physical structure marks the difference between primary elements of monumental or topographical nature and residential areas. In the city map, residential areas, just like monuments, are a permanent given, but nevertheless, its building shows a dynamic development. Conversely, despite changes in use, the building form of monuments is a permanent given. Furthermore, these prominent urban elements usually make up what Rossi calls the 'constitutive facts' of the city. These buildings form the germ cell of a city or urban area and its characteristic element. Due to their permanence in urban development, in time and their particular significance within a urban area, they can be referred to as a 'monument', according to Rossi.[9] In the research led by Rossi at the Faculty of Architecture in Milan, the analyses and design studies were mostly aimed at this category of urban facts. Therefore, the architectonic designs were interpreted as performing architectonic interventions on the existing urban structure. The question is how the introduction of new monumental urban structures relate to the existing urban fabric and historical monuments, where building and public space are designed in close cohesion. This is why historical knowledge of the European city is considered to be crucial.

The urban project: the Spanish model

Even though the Italian project for urban architecture produced an elaborate theoretical and analytical set of instruments, due to a lack of necessary active urban political culture, its application remained limited to a multitude of experimental exercises that never left the walls of the university or the scopes of conceptual competitions. By contrast, it was in Spain, particularly in Barcelona where the Milanese project of urban architecture was able to shed its academic aura and be tested in the concrete practice of urban building. At Catalonian universities, in the aftermath of the Franco regime, people eagerly adopted the Italian ideas, searching for a theoretical and design/technical scope for their own, new architectonic reality.[10]

After Franco's death in 1975 and under the new democratic city council, Barcelona started a big and ambitious public programme for urban renewal, after it had been off the political agenda for many decades.[11] First of all, the realisation of this programme was limited to the design and reorganisation of a series of small and medium-sized city squares, which received much international recognition and established Barcelona as a city with a new approach to urban renewal. A jump to a higher scale of urban projects could be made when Spain entered the European Union in 1986 and when the large flow of financial means for the economic development of disadvantaged regions had come from Brussels. With the prospect of the Olympic Games of 1992, Barcelona was given an extra impulse by the Olympic projects for the city initiated within the scope of the games. Also, for the first time, experimentation had been done with the new phenomenon of 'public-private partnership'. The reach of urban projects and their related investments required a similar collaboration between local government and private investors. The experience gained with the squares using an 'approach per project' had been transplanted to larger scale operations in the city, which concerned the transformations of city districts as well as the planning of infrastructural works. In this approach, defining specific, concrete and separate projects shaped long-term development and structural planning. First, investments were made in key projects per city district, which were elaborated as detailed interventions that had to have a generative and stimulating effect on the redevelopment of the entire city district. This project-oriented approach also ensured a revival of the architectonic shape of the urban project, which architects easily took over from the Italian experience.

At the Faculty of Architecture in Barcelona this approach was elaborated at a newly established Laboratorio de Urbanismo (1972), led by Oriol Bohigas, Joan Busquets, and Ignasi and Manuel de Solà-Morales. Here, not only a systematic knowledge of the morphology of the city was established, but it was also from this angle that collaborations were forged between designers and urban political groups.[12] It is this last connection in particular which ensured that the Spanish project of urban architecture, contrary to its Italian counterpart, could also be used in the practice of urban renewal.

With the project-oriented method of performing concrete interventions in city districts and the main organisational role of public space design, the Barcelona experience developed into a new operational model for addressing urban renewal. The historical and theoretical background of this model was the main focus in a theme number of the Italian architecture magazine *Lotus*, entitled 'Another urban planning' (1989),[13] a title borrowed from the opening article of Manuel de Solà-Morales in which he refers to the gap created in the 1920s between abstract urban planning and architecture overly focused on individual expression. According to him, this was the reason why a number of current issues in the development of the European city were difficult to answer, particularly urbanising assignments within and between existing urban areas. He also pleaded for urban planning at the 'intermediary scale' that could bridge this gap, an approach based on two important presuppositions. First, the idea of the city in parts: the city consists of concrete elements, each with separate, specific properties.[14] Second, the idea of urban architecture: architecture that can work in a structural manner at the urban planning level. As opposed to a deductive approach based on schematic concepts, an inductive work method was suggested, which differs from the concrete complexity of assignment and context. De Solà-Morales called this 'the urban project'. According to him, the urban project has five characteristics, namely territorial effects outside the location of the intervention, a complex and consistent character of the elements (mixed programmes and multiple ground use), an intermediary scale with an surveyable lead-time (five to seven years), a free choice of urban architecture and an important share of public investments and public functions in the programme.[15]

The mega-block called *The Diagonal*, designed by Rafael Moneo and Manuel de Solà-Morales for a competition in 1986 and constructed in Barcelona in 1994, is illustrative

of the Barcelona practice of urban renewal in the 1980s and 1990s. The building has a 350-metre-long façade on the famous Avenida Diagonal, running through the city centre. Behind this urban front, the block encloses a park, while a covered shopping passageway runs through the length of the building. The building houses a mix of public functions, such as offices, a hotel and shops. Despite the large size of the parcel and the building volume, the building is not split up in parts architectonically, but designed as a coherent block. There are also passageways that connect both sides of the city. The building's size intervenes as much in the direct urban context as in the scale of the large city and contributes to the continuity of the urban fabric without reverting to the surrounding types of subdivisions.[16]

Under the conditions of privatised residential production, this Spanish variant of the 'urban project' is perhaps also topical in The Netherlands. It is precisely the difference in means and possibilities of public and private parties that offers a starting point for the unbundling of the broad and integral policy assignment in different smaller separate projects with precisely formulated spatial and programmatic relations with the greater urban context. The form of the urban project therefore offers an operational model for this.

The revisited project-oriented approach

Today in The Netherlands, building policy is stagnant and the pace of urban renewal is considered much too slow. The time seems right to thoroughly reconsider the way we working on the city,[17] a reconsideration fuelled by two structural trends. First, urban development increasingly stands for quality improvement, since the quantitative growth of Dutch cities is coming to an end. The most important assignments are currently in the restructuring and renewal of older city districts and consist of a large number of projects in very diverse situations with large differences in local conditions. There is much less talk of 'empty' areas, which have an entirely different function, like the old company grounds of the first generation of key projects. Renewal takes place in 'full' areas that can only be taken on partially, such as postwar city districts, which demand smaller projects with more decisiveness and accuracy. This follows the second trend, namely that the realisation of projects is increasingly the main focus. This demands a surveyable lead-time and a concrete architectonic/urban planning performance of the project, so that public and private interests can be co-ordinated and show their financial and social feasibility.

Both trends point in the direction of compact projects as an operational plan level. It is important to link these compact projects to a strategic awareness at the scale of the city or urban region.[18] On the one hand, this awareness contains the 'memory and knowledge' of the city and on the other, an agenda for the spatial-programmatic development of the greater whole on the long term, which helps orient the projects.[19] The operational planning level takes on the character of an urban project, so the architectonic/urban planning design has an instrumental significance as a 'technique' for linking qualitative, programmatic and financial aspects. The urban planning location, the size and composition of the building masses and the typological determination of the buildings and open spaces are indicated. Such an exact proposal offers insight into the programmatic possibilities of a location with the related ground and real estate exploitations, so that public and private interests can be co-ordinated. Moreover, a good idea of the chosen urban planning and architectonic motives is created, so that a public debate about the further urbanisation of an area can be held.

Recently in the Dutch practice, two projects have been completed that illustrate what is characterised in this article as 'the urban project': the City Park in Osdorp, Amsterdam (1998-2004) by De Nijl Architects, Rotterdam, and the Ypenburg centre (1998-2006) by Rapp+Rapp, Rotterdam.

The project of De Nijl Architects is part of the urban plan for restructuring the Zuidwestkwadrant ('Southwest quadrant') in the Amsterdam city district of Osdorp. This urban plan, established earlier by De Nijl Architects, anticipated the expansion of a green strip into a city park with a fringe of towers. The residential area behind the towers faces this park by way of playgrounds and high gates. Designed by Michael van Gessel, the park offers a new public space for everyday use, but also for specific demonstrations and public performances. The park is spatially delimited by six towers of nine storeys, joined together two by two on a base with neighbourhood facilities. The base forms a court with a common garden on the park. This garden opens onto a wide doorway and both entrance halls of the two towers. Two towers have supporting façades with large, freely dividable floors, which allow for different completions that can also be modified over time. The uniform appearance of the architecture matches the division freedom of the floors. The 'urban architecture' supports the spatial working of the project at several scale levels: the silhouette of the series of towers along the park and the intimacy of the gardens between the towers.

The central area in the Ypenburg Vinex area in The Hague, realised in 2006 and designed by Rapp+Rapp for a development competition in 1998 illustrates the power of the urban project's method of working. The architectonic/urban planning project consists of a set of nine, closed-off building blocks, which match the surrounding buildings in size. The blocks feature facilities on the ground floor, such as shops, neighbourhood facilities and a sports hall as well as office space. There are flats on the top floors. Every block has four floors and its own accent in the form of a sleek residential tower, which varies from three to nine storeys. The blocks enclose common inner gardens to create wedge-shaped public spaces. On the south, the blocks form a front on a park that creates a transition towards the water. Against the background of the uniform appearance of the architecture, these public spaces and towers can 'light up' to emphasise orientation in the plan. The atmosphere of this central area is closed in the spatial precision of this 'urban architecture'. The silhouette of the towers works on the scale of the bigger whole.

* This article was previously published in the *S & RO* 4/2006 magazine (www.nirov.nl/sro)

Notes

1. Besides the key projects for urban renewal by municipalities, mainly large infrastructural projects have been vital to the image of national spatial planning: hubs such as Schiphol and the harbour of Rotterdam, the Betuwe route and the high-speed line. See H. van der Cammen and L. de Klerk, *Ruimtelijke ordening. Van grachtengordel tot VINEX-wijk* ('Spatial planning. From the ring of canals to Vinex area'). Utrecht (Het Spectrum) 2003, p. 356.
2. Ibid, p. 339.
3. K. Bosma (ed.), *Verleidelijk stadsbeeld, Ontwerpen voor stedelijke vernieuwing* ('An inviting urban image, designs for urban renewal'). Rotterdam (NAi) 1990, pp. 9-12.
4. For example, urban planners' lack of consensus on the scale size of the 'intermediary scale' put forth at an expert meeting of the TransUrban lectorate entitled 'Ontwerp en proces' ('Design and process'), 19 November 2004. See www.transurban.nl.
5. Ibid, pp. 36-44.
6. For an extensive evaluation of these projects see G. Wigmans, *De facilitaire stad. Rotterdams grondbeleid en postmodernisering* ('The general and technical city. Rotterdam ground policy and post-modernisation'). Delft (Delft University Press) 1998, and I. Bruil et al., *Integrale gebiedsontwikkeling. Het stationsgebied 's-Hertogenbosch* ('Integral area development. The railway station area in *'s-Hertogenbosch*'). Amsterdam (SUN) 2004.
7. E. Mumford, *The CIAM Discourse on Urbanism, 1928-1960.* Cambridge MA / London (MIT Press) 2000.
8. A. Rossi, *L'architettura della città*. Padua, Marsilio, 1966. With Italian, typo-morphological urban research at the beginning of the 1960s, research was started at the Italian faculties of architecture of Venice and Milan, with Saverio Muratori, Carlo Aymonino and Aldo Rossi as the most important protagonists. An important aspect of this research was the relation between urban analysis on the one hand and the architectonic design on the other, which was anything but smooth. For this relation and the Italian urban research see H. Engel and F.Claessens, 'Massawoningbouw. Object van stadsanalyse en architectuur' ('Mass residential building. Object of urban analysis and architecture'), in: S. Komossa et al. (ed.), *Atlas van het Hollands woonblok* ('Atlas of the Dutch residential block'). Bussum (Thoth) 2002, pp. 266 and subsequent pages.
9. A. Rossi, DE architectuur van de stad. Nijmegen (SUN) 2002, pp. 91, 115.
10. It was mainly the work and writings of the two leaders of the Milanese Tendenza group, Aldo Rossi and Giorgio Grassi, which stood in the spotlight in Barcelona. The Spanish editions of Rossi's *L'architettura della città* and Grassi's *La costruzione logica dell'architettura* appeared respectively in 1971 and 1973. A Spanish bundle with collected essays by Grassi even appeared a year before the Italian publication: *La arquitectura como oficio y*

otros escritos, Barcelona, 1979. And the Spanish journal *2C – Construcción de la ciudad,* dedicated monographic numbers to both Italian architects: No. 2 in 1975 about Rossi and No. 10 in 1977 about Grassi.
11. For the urban renewal of Barcelona as of the end of 1970s see P.G. Rowe, *Building Barcelona. A Second Renaixença.* Barcelona (ACTAR) 2005, particularly pp. 48-109, and J.Busquets, *Barcelona, the Urban Evolution of a Compact City*. Rovereto (Nicolodi) 2005, particularly pp. 338-409. For a Dutch take, see R. Geurtsen and N. Körnig, 'Experimenten in Barcelona: stadsontwerp in "de city der wonderen"' ('Experiments in Barcelona: urban design in the 'city of wonders'). *De Architect*, special issue 30 about Public Design March 1988, pp. 20-34.
12. Rowe, *Building Barcelona*, pp. 58-61, and Busquets, *Barcelona*, p. 343. For the Spanish urban form research also see J. Vilagrasa Ibarz, 'The study of urban form in Spain', *Urban Morphology*, No. 2 (1) 1998, pp. 35-44.
13. M. de Solà-Morales, 'Another modern tradition. From the break of 1930 to the modern urban project', *Lotus*, 64, 1989, No. 4, pp. 6-31.
14. Ibid, p. 7. The concept of 'the city in parts' ('la città per parti') was introduced by the Italian architect Aldo Rossi in *L'architettura della città,* 1966. Rossi made it clear that the physical structure of the city cannot be reduced to a single principle. The city and urban form are a sum of parts that are added in the course of time to a process of growth and differentiation. The many parts, neighbourhoods and districts differ greatly from one another in their formal aspects as well as their social ones. It is precisely this differentiation that characterises the city as a phenomenon. See *De architectuur van de stad* , pp. 62-63.
15. De Solà-Morales, ibid.
16. See Antonio Monestiroli, 'The idea of the diagonal block', *Lotus*, 82, 1994, pp. 6-29.
17. In various recent policy recommendations and publications, there is a plea for such reconsideration. For an overview, see Van Velzen, E., 'Gevarieerde stadslandschappen' ('Varied urban landscapes'), *De Architect*, May 2005, pp. 28-47.
18. A recent example of a connection between bottom-up and top-down is the 'Ruimtelijk Structuurplan Antwerpen' ('Structural Plan Antwerp'), established by a workgroup led by Italian urban planner, Bernardo Secchi. This plan emphasises the mutual relation between project and strategy as much as the interest of the architectonic/urban planning design. See H. Tilman, 'Fluwelen aanpak, citiesbouwkundige plannen voor Antwerpen' ('The soft-touch approach, urban design plans for Antwerp'), *De Architect*, March 2006, pp. 30-36 and www.ruimtelijkstructuurplanantwerpen.be.
19. The interest of the institutional 'memory and knowledge' as a commercial framework for the daily practice of urban development has recently been analysed in a publication of the Board of Public Advisors. See F. Feddes, 'Institutioneel ontwerp en geheugen, rondetafelgesprek over de ontwerpfunctie van het landsbestuur' ('Institutional design and memory, a round table discussion about the design function of the national board'), *Institutioneel ontwerp: relict, revival of revisie.* ('Institutional design: relic, revival or review'). The Hague (Atelier Rijksbouwmeester) 2006, pp. 54-71.

AMS/EHAM elev. minus 13 ft ref. 52° 18' 31N 4° 45' 50E
(Amsterdam Airport Schiphol or the place to land, 1916-2006)
Filip Geerts

'Been to Amsterdam to look at a site at Schiphol. The site is good'. 25 January 1916, diary H. Walaardt Sacré, Air Force Captain.[1]

The *OverHolland* series about the Dutch city, and more specifically about architectural intervention in the archipelago of Dutch cities, was initiated as an alternative starting point to position research and project against the increasingly nauseating planning rhetoric of the subsequent *Randstad* and *Deltametropolis* models. Schiphol has often appeared at the centre of the type of debate that *OverHolland* tries to avoid, but at the same time, ignoring it is impossible for anyone interested in land use and the particular dynamics of the 'Dutch archipelago of cities in a suburban waterland'.[2] On a junction between policy-making and concrete reality, Schiphol is tied into the very real system of the delta land in general and the Haarlemmermeer in particular, the larger systems that make existing beneath NAP[3] possible, as much as it is accompanied by noise contour maps and zoning regulations, and adorned with epithets as 'mainport' and 'airport city'. Its very physical presence, matured over time and immense in size, is often completely overshadowed by the debate on its role in the urbanized western part of The Netherlands.

It is said that Albert Plesman himself, cofounder of KLM, coined the term 'Randstad' (literally, 'rim city'). Back in 1937, when flying across the urbanized western part of The Netherlands looking for a suitable location for a new 'central' airport, he is said to have seen it from his bird's eye panoramic vantage point: the concept that together with its 'green heart' twin would dominate Dutch spatial planning in the post-war period. Plesman communicated his Randstad vision to the ministry of Home Affairs in order to promote his idea for a single airport to base KLM's operations and to serve the main urban centres all at once from a central location in the green heart – more central than Schiphol.[4] The anecdotic Schiphol that Plesman used to make his historical observation in a way gave birth to the Randstad model/reality as much as the 'trekvaarten' (canals for horse drawn barges) of the sixteenth and seventeenth century, the railways since 1839 and later cars and buses as well as the integrating factor of the *Nieuwe Hollandsche Waterlinie* ('New Dutch Water Line') since 1813.[5]

Here, presenting the case of Schiphol reveals the tension between the large-scale region and the particular, between the artefact itself, its history and possible futures, and between reality and all apocryphal versions that never left the drawing board. The traces of previous versions of Schiphol and the ghosts of alternative ones never built reinforce the presence of the actual Schiphol with a permanence that is at least as powerful as other facts in the Dutch city archipelago.[6] This permanence is something not usually associated with airports that are subject to constant change, update and often deemed obsolete before completion.[7] Its resistance to the more radical and absolute transformations suggested at times and instead its adherence to gradual adaptation and carefully planned expansion make it more like a city in the archipelago than any other aspect.

The tension mentioned above is difficult and ambiguous, and cannot be resolved by simply presenting Schiphol as one of the building types – institutions – produced by Amsterdam as one of the Dutch cities, as it probably could have been done until WW II. To deal with it as a piece of Amsterdam would be wrong, and not just because it is and has always been outside its city limits in the Haarlemmermeer. It would also be too easy for the sake of style to treat Schiphol as just another, albeit slightly awkward Dutch city: although referred to and branded as a successful airport city and having the facilities traditionally offered by the average city centre, it is much more an alternative to the city as we know it today than analogous to it.[8]

This year, Schiphol celebrates its ninetieth anniversary. Thanks to the landing of a military Farman plane in 1916, Schiphol is older than Almere or Lelystad and a piece of land that has most probably seen more transformations than any other polder. It is this kind of transformation that is presented here, one that has come about on the intersection of the large-scale planning-thinking on the level of the region in favour of a 'fictitious metropolis' on the one hand, and the resistance of a particular entity on the other.

Roaring 1990s
Airports have fascinated architects, but are not generally seen as architecture. Airports are referred to rather than dealt with. Explaining what architecture is about, Ben van Berkel and Caroline Bos claim that, 'Architecture exists between airports and art.

Architecture is a cultural project, but also a complex organisational undertaking. These two aspects come together when the architect gives them a form'.[9] Sometime in the mid 1990s, the fascination with airports in general and with Schiphol in particular was at its peak. Large new airports were completed all over the world from scratch: Kansai (Osaka Bay), Chep Lap Kok (Hong Kong), Kuala Lumpur and Denver to name a few. Books were published and exhibitions took place, all putting emphasis on the cultural phenomenon of the airport.[10]

The worldwide airport design and construction activity coincides with an interest in notions like *non-place*[11], *heterotopia*[12] from one side of the academic spectrum and on the other with notions like *mainport* and *airport city*. It is in this context that a kind of overall airport cliché (Schiphol cliché) has formed, making it an almost impossible task to frame the airport as a specific, intentional, morphological and architectural entity, with a wide range of implications for the territory around it, but without resorting to hysteria, anthropological bias and economic triumphalism.

Amsterdam Airport Schiphol had already undergone a major expansion, as it had become clear that the second generation terminal complex, completed in 1967 and gradually expanded, would not be able to deal with the anticipated growth in aircraft movements and passenger flows. The first phase of a master plan (1988-2003), increasing the capacity from 16 million passengers in 1987 to over 40 million in 2015, was completed in 1993. Benthem and Crouwel, together with NACO (Netherlands Airports Consultants, The Hague) were responsible for almost everything built: a fact that does not seem contradictory for Jan Benthem when remarking that, '(…) the airport has become a city' .[13] Benthem and Crouwel became Schiphol's court architects after an original commission for a bicycle shed.[14] Jan Benthem states that it does not matter what the terminal building looks like as long as it functions optimally.[15] Benthem refers to a more inclusive notion of functionality these days often referred to as 'performance' – a type of efficiency/functionality that takes the experience of the user into account: he means that Schiphol airport needs to be a pleasant machine.[16]

Where to land? – Schiphol

Decades after Le Corbusier's first visionary proposals included conjectures on the significance of air travel for the machine age city, he exclaimed *'Où atterrir ?'* ('Where to land?')[17] The increasing scale and complexity of air travel since have made addressing this issue even more relevant, as it has been the case with Schiphol. The discussion about Schiphol has more often been a discussion on where it is and should be than actually what it is or should be. Plesman, Fokker, Dellaert and more recently Koolhaas have all submitted proposals about where a national airport for The Netherlands should be.

In retrospect, the fact that Schiphol has been at the same location for ninety years seems to be a coincidence: a combination of its strategic position behind the New Dutch Water Line also known as 'fortress Holland', the quality of the soil, and the land value in the Haarlemmermeer. Dutch military aviation was at its infancy in 1916 when it was looking for an inexpensive site from which to operate its planes. Colonel C. J. Snijders, having made a career in the engineer corps after the Atjeh war and having become Commander-in-chief of the land and sea army, had done some research, and in 1913 the Dutch Air Force was created with one rented plane stationed at Soesterberg airfield near Utrecht. The Dutch policy of neutrality required intense border patrol, which could be assisted by airfields around the perimeter of the country. At the start of WWI in 1914, the Air Force had five planes. Afraid of a German invasion despite Dutch neutrality, the need arose for an airfield within the Water Line, the defence system that as of 1813 protected the political and economical heartland of the country by effectively turning it into an island in the case of hostilities: surrounded by flooded countryside. The airfield preferably had to be located as well within the *'stelling'* of Amsterdam, the nineteenth century ring of fortresses around the capital. A first choice north of the North Sea Canal, Amsterdam's canal link with the North Sea, soon turned into a muddy fiasco during the first winter of war. Time was taken to look for an alternative, since the war had stalled in the trenches, and a German invasion was now unlikely. A military airfield was not the priority in a country where the economic malaise was more pressing. Two parcels of land in front of Fort Schiphol, a fortress built on a piece of land jutting into the *ringvaart*, in the northeast corner of the Haarlemmermeer seemed a good choice: ' been to Amsterdam to look at a site at Schiphol. The site is good.' – H. Walaardt Sacré, Captain of the Air Force writes in his diary on 25 January 1916. War minister Bosboom approved the acquisition of two parcels of land and the first of three Air Force planes lands on September 19, 1916: Schiphol was created on a 200 x 600 metre lot. A first expansion was approved on 1 May 1917, but the war was already over when Schiphol became an official military airfield.[18]

At that time, the city of Amsterdam was not looking for a place to build an airport just yet. When discussing Berlage's Plan Zuid in 1917, one councillor, Dirk Manassen suggested reserving 36 acres for aviation purposes, a request which was not taken seriously. The Plan Zuid came a little too early and does not, contrary to the later A.U.P. of Van Eesteren in 1935, feature any indications of an airfield. Just over a year after Manassen's ill-fated initiative, things became different: Amsterdam wanted an airport and wanted it quickly. After the plan for a combined water and land aerodrome at Schellingwoude had proven to be too expensive and too slow of a solution for the city, Schiphol was opened to civil operations in December 1920. The KLM, which stands for 'Koninklijke Luchtvaart Maatschappij voor Nederland en Koloniën' – 'Royal Dutch Airlines' in English, which since 1919 had existed only on paper, was allowed to use the airfield to transport passengers and mail. On 17 May 1920, a DeHavilland DH-16 out of London chartered by KLM lands at Schiphol airport with two passengers on board.[19]

In 1919, Plesman of KLM had still preferred Maaldrift near Wassenaar (The Hague), but commercial reality and his mail contracts had forced him to Amsterdam. In 1921 Rotterdam had built Waalhaven on the edge of the homonymous harbour, anticipating the growing importance of seaplanes. Although Amsterdam meant more passengers, Schiphol was still less equipped in comparison. Because of this, KLM's technical division was stationed at Waalhaven for the next 13 years. In the summer of 1921, the KLM had a fleet of 16 airplanes with service to London, Bremen/Hamburg and Rotterdam/Brussels/Paris and its first booking office on the Leidseplein. Homebase Schiphol was still a wet stretch of polder with only hangars for shelter and the new 'KLM Cafe Restaurant Schiphol'-cum-hotel. After five long years of discussion between Amsterdam, the war ministry and the transportation ministry, Schiphol became the municipal airport of Amsterdam in 1926. The city wanted to compensate the losses of traffic in the harbour to the expanding port of Rotterdam with aviation and invested heavily in the airfield.[20]

By the time Charles Lindbergh crossed the Atlantic in 1927, a network of flights was operating between all major European cities. Rich Americans came to Europe to travel around by plane. Lowell Thomas on a flight to Schiphol notes that The Netherlands looks Dutch even from the sky: ' (…) a gigantic garden laid out by landscape artists with a passion for geometrical designs' and that Schiphol, 13 feet below sea level, ' takes the blue ribbon as the freak aerodrome of the world'.[21] Governmental support for important companies was available, also for KLM, expected to launch vital service to the colonies soon. That year, the *Rijkswegenplan* ('National motorway plan') was approved, including the new A4 motorway from Amsterdam to The Hague via Schiphol. And although work on the road would only begin 1934, by then the Schiphol-Amsterdam stretch was already in an advanced stage, thanks to the interest of the city of Amsterdam in its airport. Schiphol's city terminal building was completed in 1928; a simple, modern building in sharp contrast to the traditionalist Croydon terminal building opened the same year in London.[22]

Talking about the obsolescence of the airport… expansion was already on the agenda almost immediately, and a few years later in 1934, Plesman himself, never satisfied with the state of Schiphol, presented a plan with a terminal complex adjacent to the Amsterdam-The Hague motorway. The city instead preferred to concentrate on the area near the existing terminal and had to take into account that another important figure in Dutch aviation was working on plans as well. In 1935 Fokker presents a central 'midfield' terminal. In the end, neither Plesman, nor Fokker got their respective expensive ways, and the existing terminal was expanded gradually, as the city was unable to get more government funding. The airfield was expanded again in 1935-1936, and since the city was afraid of lagging behind now that the idea of a new combined airport for Rotterdam and The Hague (ROHA, later renamed NV Vliegveld 'Holland') was seriously being considered, paved taxi and runways were completed in 1938.[23] Schiphol was the second airport in Europe after Stockholm-Bromma to have paved runways. During the time left until the cessation of almost all commercial air traffic leading up to WWII, Schiphol was one of the best equipped airports in Europe.

After the war, repairing Schiphol and rebuilding KLM were important reconstruction priorities. The city of Amsterdam took the initiative of securing Schiphol's post-war future. After the first repairs and reconstruction were finished in 1946, different studies for an expansion resulted in Dellaert's plan of 1949. Jan Dellaert had been KLM's Station Master at Schiphol from 1920 until 1926 when he became the official of the city of Amsterdam to deal with the airport. Initially, the existing pre-war runway layout had been taken as a starting point with the addition of different parallel and intersecting runways, but Dellaert's plans for expanding Schiphol shows a radical tangential runway layout: the Haarlemmermeer was still rather empty and noise was not yet an issue, so this space-consuming layout with a central terminal building and runways in all directions was feasible here where it had not been elsewhere in Europe. At that time, the tangential system was already obsolete due to of safety concerns and did not provide any operational benefits compared to a parallel system. But the magic of the layout, as if it was an ideal city designed by Simon Stevin himself, would be the basis of the new airport.[24] The planning happened parallel to the discussion on the exploitation of Schiphol between Amsterdam and the central government that would result in the Schiphol company in 1958, the same year that more passengers crossed the Atlantic by air than by sea for the first time. Although there was collaboration of KLM, and the proposal re-

veals a solution suitable for KLM's transit operations, the home carrier was not that convinced. In 1951 KLM commissioned NACO to draw an alternative to the Dellaert plan, which was too expensive for them, had too many runways with planes becoming less crosswind sensitive and too ambitious and irreversible, considering KLM was still hoping for a new airport somewhere else altogether (Plesman's central Randstad airport in Burgerveen – see below). The NACO plan helped to get even more approval for the Dellaert plan than anything else. Still, there were issues with the plan and the 'Studiebureau Schiphol', founded in 1952, was busy adapting the Dellaert plan, keeping the tangential system with only four runways. It was only in December 1957 that the government approved the expansion plan as well, after the city of Amsterdam had done so a year earlier. Construction could start after ten years of planning, prompted by the immediate need for a 3,300-metre runway that could handle jets taking off to cross the Atlantic.[25]

Construction of the 274 hectares central terminal area began on 15 June 1963: in addition to a passenger terminal that could be doubled in size, a control tower-cum-administration and crew building, a building for the RLD (*Rijksluchtvaartdienst*), catering buildings, cargo terminals, warehouses, hotel, car parks, and even the national museum of aviation (aviodome) were built. NACO, the De Weger firm and Prof. Duintjer (for the architecture) were responsible for the design. Queen Juliana opened the new Schiphol centre on 28 April 1967, and almost immediately planners were dealing with the foreseeable future when capacity would need to be increased (KLM had ordered its first three 747s). In addition to expansion of terminal and apron facilities, a fifth runway was already planned in 1967. In 1975 an extension of the terminal was opened, more than doubling the size of 1967.

With what was essentially a pre-jet age concept (KLM did not approve of jets on time to fundamentally alter to concept of the new Schiphol) of the Dellaert plan, the slow implementation of the tangential system with its omni-directional impact on the surroundings, would be the basis for the airport politics to come: the surroundings were increasingly built on, unaware of the extent to which jet noise was going to become a very real problem. The *Buitertbaan* (the East-West runway), put into service on 22 November 1967, made it official: jets produced noise – The Netherlands entered the age of *Kosteneenheden* and noise contours.[26] The desired expansion of the runway capacity is increasingly often presented as a way to distribute the environmental impact, taking the possibility of accommodating increased traffic in the future as a bonus.

With the opening of the Schiphol terminal complex surrounded by the set of four runways gradually put in service, Schiphol also became physically something else than what Schiphol-Oost had been: access is from the A4 motorway and oriented to a larger context than Amsterdam, very slowly realizing over the next few years, the important connections with the entire country by road and rail that Plesman had insisted upon. The motorway interchange between A4 and A6 at Badhoevedorp was finished in 1967. A tunnel takes the Amsterdam-The Hague A4 under runway 09/27. The train tunnel was already there, when a government commission approved the Amsterdam-The Hague line through Schiphol in 1969. Work started on the line itself in 1974, and in 1978 a rail connection to Amsterdam/RAI, in 1979 to Leiden, and five years later, to Amsterdam Central Station was put into service.

The airport as an intermodal hub was only developed further once the railway station was upgraded as a part of the expansion in the 1990s. The hub function advocated since the mid 1980s was becoming a reality. On and off the airport, non-aviation related income became increasingly important. After Shannon in Ireland, Schiphol had been one of the first airports offering tax-free shopping in the 1950s, while it was only introduced in Frankfurt and the UK in the late 1960s. The airport legitimizes itself as an economic zone, a mainport and it negotiates with its surroundings and emphasises its own economic importance: jobs. Schiphol will prevail despite the alternatives that temporarily surface from Dutch planning culture and policy. Final approval for a fifth runway only came in 1995, delayed by 'limits to growth'[27] and heavy procedures. In 1999, Schiphol and the government believe in technology, quieter planes in the future and better approach procedures. Everyday the multitude of runways is used for a magically choreographed ballet to distribute the nuisance over vast areas of land, and not to concentrate it.

Taxiing between the terminal complex and the new Polderbaan 01L/18R means a 15-minute cross-section through the polder landscape of the Haarlemmermeer, crossing two highways (A4 and the new A5 bypass to Haarlem) and the *Hoofdvaart* of the Haarlemmermeer, and passing by a second control tower five kilometres away from the main one. After more reconstruction and expansion of the main terminal complex, faithful to its one terminal concept and still without the people-mover suggested in the drawings of Benthem and Crouwel in the early 1990s, terminal expansions for the future are promised even on the other side of the A4. Schiphol managed to still fit an H-pier for low-cost carriers east of the A4 in 2003. It seems Schiphol is there to stay, at least for a while.

Apocryphal airports

There has been something of a desperate attempt by architects to keep airports in the centre: first of the city, like the old railway terminals, and later, of the region. This way, airports have more often been associated with their urban/regional aspirations than with their architecture, inspired by a timeless functionalism, lately under high-tech canopies.

The problem of getting to airports from the landside was recognised early on. Lewis Mumford notes in 1934, 'the flying fields could only be placed at the extreme outskirts of the bigger cities, on such remaining land as had not been built upon or chopped into suburban subdivisions, so that saving time through the swiftness and shortcuts of airplane travel is often counterbalanced, on short flights, by the length of time it takes to reach the centre of the big city from the flying fields on the outskirts.'[28] So the plane came to the city too late, or at least should have come before the car: by the early 1920s, cities were often already overgrown. The distance from airport to city centre has always been an issue. No regional planning discipline brewing at that time was going to change that fact.[29]

The reaction to this came in the form of the early proposals for central city airports. Le Corbusier, famous for his obsession with the airplane, had a vision of the relationship between aviation and the modern city that essentially revolved around two scenarios. First, his *Contemporary city for three million inhabitants* (1922) had shown airplanes to be a natural part of the landscape among the spaciously distributed towers. In 1941 he delineates another scenario in *The Four Routes*: an explosive growth in the amount of regional airports integrated in the new urban corridor development. It is then that Le Corbusier points out the inherent beauty of the airfield, thanks to the emptiness of its necessarily obstacle-free environment: 'The beauty of an air terminal is the splendour of space'[30] For Le Corbusier a new city shapes itself around the airport in both instances, because a 'city made for speed is made for success.' The central station-cum-central airport on top of a motorway and railroad in the contemporary city is just one possibility. (Evaluating this project later, Le Corbusier adds that small aero-taxi would be shuttling people to large aerodromes outside the city.) Although less dramatic, the new city still shapes itself around the airport in *The Four Routes*. This is not the city as we know it, but a regional system of different settlement types. The airplane was Le Corbusier's vehicle to indict the city as it existed ('l'avion accuse…'[31]). Others wanted to give it a role in the city's renaissance and insisted on the airport's centrality, producing spectacular schemes right in the city centre that remain unbuilt.[32] In the United States, an entry for a mid-city scheme was published by the Leigh Airports Competition in 1929, with the jury commenting: "A visionary scheme published for its originality rather than for any elements of practical utility. Obviously, this plan would involve excessive danger in use."[33] A similar design by C.W. Glover in 1931 for an airport at London King's Cross did not stand a chance in the face of the comments by Viscount Swinton, Air Minister in Great Britain: 'A certain number of rather unintelligent people ask me, when are you going to establish an airport in the middle of London? The answer is when everybody in London has become so air-minded and unaesthetic as to cut down every tree in Hyde Park and turn it into an aerodrome.'[34] But when the Philadelphia 30th Street Station opened in 1934 in the United States, it featured (in addition to over 3,000 sq. ft of hospital space, a chapel, and a mortuary) a landing space for small aircraft on the reinforced roof. Instead, the tide was against airports, confirming the central city, with only a few exceptions. Architects gradually abandoned the central city airport and their efforts focused on resolving the issues of air transport on the scale of building on the available land, compensating for the detachment from the city centre by investing in efficient structures for boarding and transfer to land infrastructure. Instead of having a concern for a city centre airport, the idea of one central airport for the region (Plesman's 'Randstad') was a concept that would keep on haunting The Netherlands. But in the end, Le Corbusier's *Four Routes* model, with its proliferation of regional airports, was not very far from the truth we know today.

The ideal location for a civil airport in The Netherlands has always been a point of contention. The very first candidate (1919) had been Soesterberg, near Utrecht, the largest and best equipped of the early military airfields – it was the location of Air Force maintenance, there was plenty of hangar space and a fuel farm, and the first more or less scheduled service flew here from London (BATC, from September 1919 until January 1920), as well as the Luftreederei Max Schüler to Berlin (February 1920).[35] Apart for this early short-lived aviation moment, railway centre of The Netherlands and smaller of the big four cities, Utrecht, would have no further say in the airport contest, starring Amsterdam, Rotterdam and The Hague that all wanted an airport and would get one.

The State Commission on Aviation was debating on where to land as well as discussing to what extent central government should be involved in the exploitation of airports.[36] Government centralization had been the way for the Dutch railways in 1917 and for the telecommunications business and was considered for aviation as well. The infighting between the different cities interested in attracting air traffic was partially enhanced by the commission when in 1920

it approved of making airports a municipal business instead of being regulated by the central government.[37] For a while, control towers seemed about to replace church towers as the objects of municipal pride. When KLM left The Hague (Maaldrift) for Schiphol, Rotterdam built Waalhaven as a response to lure KLM. Airports were seen as urban, municipal institutions contrary to the idea of one central airport for what was to become coined as the Randstad.[38] But that does not mean that the idea of one central airport (more central than Schiphol) was not addressed more than once, before and after the war. Suggesting alternatives to Schiphol, only to later confirm the importance of Schiphol once again, had become something of a national pass-time.

Rotterdam/Waalhaven (1921) was not the success expected and KLM was tired of having to serve the airport in addition to Schiphol – Waalhaven on the south bank of the river Maas, which was not easy enough to reach from the landside, according to Plesman. Instead of investigating intermodal[39] solutions to resolve the issue, it was at one point even suggested to schedule air service between Delft and Waalhaven, only 15 kilometres apart![40] In 1924 Plesman tried to convince Rotterdam in vain to invest in a new airport together with The Hague, southeast of Delft, an idea already suggested back in 1919 in talks between the two municipalities. The Hague, busy with plans for Ypenburg as a replacement for Maaldrift, was contemplating Plesman's idea, but Rotterdam did not want to give up Waalhaven. For the State commission, the proposed Delft airport was only an option if Waalhaven would close and still then not be a candidate to replace Schiphol and become the one central airport for the Randstad. The still underdeveloped condition of the Dutch road network, made the idea of one central airport within reach for everybody, rather theoretical in the first place. The *Rijkswegenplan* of 1927 was not going to change that overnight. The Hague kept on trying to convince Rotterdam, and in 1931 the start-up of exploitation holding ROHA came close. Eventually, Rotterdam's rejection made it clear for The Hague that the only hope was Plesman's one central Randstad airport – in 1934 even questioning Schiphol's expansion plans in this light – until Rotterdam took the initiative in 1937 to build a new airport north of the city, in the Zestienhoven polder near Overschie, only 20 minutes by motorway from The Hague. That was good enough for The Hague. K.L.M in the person of Plesman was less pleased – Schiphol and the new Rotterdam airport would be only 54 kilometres apart. This was the moment Plesman launched his airport plans, and with it, his Randstad. Plesman's one central airport in the green heart of the Randstad meant the closure of Rotterdam/Waalhaven and Amsterdam/Schiphol, as civil airports at least: the respective municipalities would be compensated by selling them back to the military. Plesman thought the new airport should be East of Leiderdorp – offering good possibilities for motorway and rail connection to Amsterdam, The Hague, Rotterdam and Utrecht, and the orientation was favourable considering the prevailing western winds. The government was all for it, but when in 1938, after having invested heavily in the new runways, the Amsterdam council got minister Jan Van Buuren's letter, it was less than pleased. The position of Amsterdam was: Rotterdam could keep a modest airfield and have shuttle flights to Schiphol – a central airport was acceptable only if it was Schiphol. The capital was unanimously against the minister – a mass demonstration 'S.O.S. Schiphol' was held on 2 July 1938. In The Hague and Rotterdam, the interest for what was Plesman's idea was gone as well: The Hague was fine with Schiphol and Rotterdam wanted to have Zestienhoven anyway.[41] Leiderdorp was never going to happen, despite the minister's initial stubbornness and Plesman's public support. What did happen is an agreement that would transform Schiphol from municipal airport to a consortium (Nationale Luchthaven Schiphol) controlled 60% by the state and the remaining 40% by Amsterdam and if interested, Rotterdam, although implementation of this would have to wait until 1958. Schiphol's role in European air traffic would be assured as the one main national air terminal, although not in the centre of the Randstad, but as one of the best equipped airports on the continent, offering passengers the best services. In the following years, Schiphol played an important role as one of the best equipped operational airbases of the German *Luftwaffe* in Europe (even with railway connection) after the invasion of 1940. This made it an important target for the allies, and in December 1943 the runways were severely damaged in an American bombing raid.

After the war, when frantic reconstruction of Schiphol was taking place, and the airport received the government designation 'World airport of The Netherlands', a displeased Plesman wanted to put his central airport for the Randstad back on the agenda. In October 1945 the KLM boss saw the right moment once war had reduced Schiphol essentially to rubble. Out of four possible sites, including also Schieveen where Rotterdam was planning to build its own airport (Zestienhoven), Schiphol itself and Ypenburg (The Hague), Plesman preferred Burgerveen in the southern Haarlemmermeer. The discussion with the government focused on the budget advantage of one Burgerveen airport (or Haarlemmermeer Zuid) meant compared to two international airports: Schiphol and Rotterdam/Schieveen. Plesman presented an elaborate plan with air traffic control in the centre of a midfield complex including separate terminals for intra-European and intercontinental traffic and maintenance facilities. Except for Plesman, KLM and the RLD (*Rijksluchtvaartdienst*), nobody seemed to like Burgerveen: Amsterdam was very much against it, Rotterdam wanted a combination of an intercontinental Schiphol and a domestic/intra-European Schieveen, greenhouse farmers hated the idea, just as pretty much everybody else. Burgerveen was never built, just as Leiderdorp, Plesman's pre-war baby, had not been either. It would not be the last time alternatives for Schiphol were launched, but from this moment onwards they would be outside the existing contours of the country: on new land.

Waterland: land or water

Schiphol airport was built on the northeast corner of the Haarlemmermeer, a lake of about 18,200 hectares on which on 26 May 1573, a naval battle with Spain took place, and from 1852 onwards was drained with private funds to turn it into farmland. Although the lake had been drained long before there was talk of an airport, most of the most realistic alternatives to replace Schiphol after the war would have involved land reclamation. With the noise problems centre stage, growth for Schiphol had been made much more difficult. The plans drawn up on different occasions when growth was forecasted made it so that a second national airport or a complete replacement for Schiphol had to be considered. A second national airport was politically only possible outside the existing contours of the country: somewhere off the North Sea coast or in the 1970s in the Markerwaard, the one polder of the Zuiderzee project not yet reclaimed. All these possibilities seemed too expensive and even unnecessary in a time of slowing growth thanks to the oil crisis: reasons that essentially prevented a real alternative for Schiphol to become reality. Every time Schiphol got a new lease of life.

The size of airports dwarfs any other land use, and Schiphol is no exception. In a land with plenty of water, considering airports offshore or on reclaimed land seems obvious. In some cases, using the water itself was even considered: Rotterdam/Waalhaven was built on the edge of a dock with this in mind, and Cornelis Van Eesteren plays with the idea when presenting his AUP (Algemeen Uitbreidingsplan or 'General Expansion Plan') in 1935. The AUP was presented at the fourth CIAM conference, organised by Van Eesteren.[42] On the plan Van Eesteren gives two indications about places to land: one is Schiphol, tiny compared to what we know today, the other on Zeeburg. The icons used are slightly different: the one on Zeeburg shows floats under the wings. In his explanatory text on transportation, Van Eesteren mentions at the end: "Finally considering inter-local transportation needs to be mentioned air traffic that is going to have an ever growing importance for world transportation. Both airports in and near Amsterdam are indicated. It is very difficult to give guidelines about the future development of air traffic and especially the influence of this on the dimension and organisation of land-based or water-based airports. Today, the development of Schiphol shows an increasingly urgent need for aircraft to have even more room to land and take off. The building restriction stipulated in the legislation on air traffic and approved some years ago is no longer sufficient, and the need is clear for a sensible increase of the available airport land."[43] In addition to Schiphol, near Amsterdam, Van Eesteren also made his case for a water-based airport at Zeeburg (Schellingwoude) for intercontinental air traffic. He saw Schiphol as an airport primarily for intra-European flights.[44] '(…) development of aviation indicates that transoceanic air traffic will soon be practicable, and this probably by means of seaplanes. In this case, building an airport for transoceanic traffic at or adjacent to the navy base for seaplanes at Schellingwoude is obvious. For this, it is best not to use the IJsselmeer between IJdijk and Pampus, including the dredging yard, without taking into account the establishment of an airport for seaplanes.'[46] In the plans we see that both Schiphol and Schellingwoude are to be separated from the city by large parks. Van Eesteren also indicates that the 'oostelijke verbindingsweg', essentially the ring road proposed by the AUP, will also be important in order to connect both centres of air traffic, Schellingwoude and Schiphol. The plan even suggests, 'In addition, if necessary, it would be possible to create a connection between both airports by means of an amphibious aircraft service and perhaps land-based aircraft that could operate from the terrain of the dredging yard.'[47]

This aviation enthusiasm suggested by Van Eesteren in the AUP coincides with a particular visitor: in 1933 Charles Lindbergh and his wife made a stop in Amsterdam on his flight around Europe with his Lockheed 8 Sirius two-seater seaplane *Tingmissartoq* in order to promote seaplanes and find suitable landing sites for Pan Am. In 1933, five airlines interested in the development of commercial air transport (Pan American Airways, Imperial Airways, Lufthansa, KLM, and Air France) had undertaken a co-operative study of possible transatlantic air routes, each taking a possible route: Newfoundland to Europe via Greenland, Newfoundland via the great circle route to Ireland, Newfoundland southeast to the Azores and Lisbon, Miami via Bermuda and the Azores to Lisbon, and across the South Atlantic from Natal, Brazil to Cape Verde. In November 1933, Amsterdam was the 32nd stop in the northern hemisphere, followed by an unscheduled stop due to fog in Rotterdam on the way to Geneva.

Seaplanes were still being considered when The Netherlands was still occupied in early 1945. Prince Bernhard in London commissioned Guy Morgan and partners to design an airport for after the liberation in order to replace the largely destroyed and dismantled Schiphol. The British design shows a Heathrow-like Star of David-shaped runway layout with a midfield terminal complex in combination with a large artificial lake to receive the large seaplanes serving on the transatlantic routes. One could imagine part of the Haarlemmermeer being flooded again for this purpose.[48]

In the 1970s when the conclusions of the Club of Rome presented as 'limits to growth' were becoming common reference for policy-makers in The Netherlands, any further expansion had become a no-no for Schiphol. Already at the end of the 1960s, building a complete new airport was considered, something at that time only the French had succeeded in doing with *Roissy/Charles de Gaulle* before noise contours dictated airport planning. That theoretical new airport was also the reason why Schiphol's fifth runway should not be invested in, eventually only built in 2003. Of a series of possible sites for the second national airport that was suggested in 1971 among which Dinteloord (West Brabant) and Leerdam (South Holland)[49], the ones involving extensive offshore and land reclaiming engineering were the most spectacular: as a part of the Rotterdam Maasvlakte, on an offshore location on the un-deep seabed in front of Goeree (Zeeland), or on the still to be created Markerwaard polder. The last one ended up the favourite in 1975, the hypothetical land being state owned, including the land where the noise footprint would be. In 1979 the enormous amount of studies carried out through the 1970s ended up prematurely abandoning the idea of a second airport.[50] A very similar spectacle was staged at the end of the 1990s when explosive growth was again an issue: this time Schiphol did not only get out of it unharmed – it even got its fifth runway, prospects for a sixth, and maybe seventh, and architecture culture got a treat with a plan by Rem Koolhaas for an island in the sea.[51]

Insulinde

This year we celebrate another anniversary: on 1 October 2006 it is 75 years ago that the longest, weekly postal/passenger airline service at the time started, from Amsterdam to Batavia in the former Dutch East Indies (now Jakarta, Indonesia). Up until WW II, this was the longest flight route in the world.

The KLM had already called itself 'Royal Dutch Airlines for The Netherlands and its colonies' since its creation before actually operating a scheduled service to Insulinde.[52] Two Brits had made stops on the Dutch Far East archipelago on their way to Australia in the year of KLM's founding.[53] To attract interest of aviation pioneers the Dutch East Indies government, as early as October 1919, had offered a reward that was later increased for anybody who completed such a flight within two weeks and later one month. No aircraft suitable for the job was available until Fokker built a new larger commercial airliner with a longer range, the F.VII, for which Plesman placed an order on 10 December 1923. On 24 November an F.VII arrived in Batavia. A whole series of experimental journeys to Batavia, taking 12 days of nine hours flying each were made with 18 stops along the way before the first scheduled flight arrived in Batavia. From 1930 until WW II frequency grew from once every two weeks to three a week. Until Indonesian independence in 1949 KLM made loads of money on the route and Fokker could boast that in 1930, 65% of commercial passenger aircraft in the world was his.

Amsterdam was connected to Batavia by air. Looking at a map of Batavia at that time a conspicuously Dutch airfield can be seen just east from the city centre: a perfectly circular island in the midst of the surrounding sawahs. It looks like an airport that could have been Amsterdam's, had the Haarlemmermeer not been drained, in a land with rice fields instead of polders. That airfield is no longer there, the sawahs neither, engulfed by a sprawling tropical megalopolis.[54] It is just one of the ghosts in the archive of long gone airports and never built airport dreams.

One such dream, a recent one, was launched in the fine tradition of stirring up a radical airport debate ending in an anticlimax of just another new runway for Schiphol, recently in 1998 by the Office for Metropolitan Architecture. Rem Koolhaas presented a now considered already seminal scheme, a diagram of a perfectly circular island in the North Sea, just off the coast of The Netherlands. The Schiphol group and KLM had commissioned OMA to replace Schiphol with an airport island, an island alternative.[55] Airport expansion was needed but the noise problem makes it a difficult political decision to take. It is often said that architects have become mere stylists of airports that have turned to specialists long ago.[56] In this case, the architect was asked to perform a role in the debate itself: to create a diversion, a beautiful one that is: a logo to guide future planning or a final conceptual fireworks ending with business as usual – Schiphol.

OMA explores the consequences of relocating Schiphol at sea, for the country as whole, the continent: it suggests a new colony, an Insulinde for the third millennium, just off the coast, with the airport at its centre. OMA does not fit any more airport into The Netherlands than it can digest and instead indulges in the tradition of shaping the countries' geography according to its needs. 'In the most densely populated part of Europe, at the crossing of two major transport axes, in a network of intensive trade, beneath the busiest airspace in the world, four airports are competing for the status of European hub, finding their ambitions increasingly constrained. The Netherlands could be the first country in Europe to relocate its main airport to an island in the sea. A dramatic boost to the relative importance of a small nation. An airport free of restrictions! A potential worry to others… The current Schiphol, a vacant lot, affecting the planning of a whole country.'[57]

The plan suggests the consequences of both the offshore island and the void it leaves behind. Old Schiphol would be the new centre of an emerging network – imagining that 625 km^2 of land in the core of the Randstad would be freed up with a surplus of infrastructure for concentration and density instead of dispersal. 'The disappearance of an airport – the source of a new clarity. The compact city – the salvation of the green heart.' The island would slow erosion of the Dutch coast in the face of sea-level rising and disturb the Gulf Stream in such a way to bring wetlands and natural ecological beauty into existence. The island itself would become more than just airport: a new city, a different one, a kind of dependence of The Netherlands, with a vast complex of entertainment and business centres that would fund the development, along with housing for Peter Sloterdijk's 'kinetic elite'. A city for nomads is born, nomads without a backyard: the island could be Alcatraz (containing the refuse of a society: the Borselle and Dodewaard Nuclear Plant, DSM chemical installations, oil refineries, incineration plants and garbage dumps, toxic silt dumps, *Gist Brocades* of Delft, the Bijlmer prison, the Hoogovens steelworks and surplus pig manure) and EUtopia (an amalgam of Las Vegas, Disneyland, windmill parks, marinas, race tracks, the Keukenhof tulip garden, etc.) together, for the cost of less than the Deltaworks in 1960.

A city for nomads: one based on movement rather than settlement. In his lecture 'Over het reizen' ('About travel') for the BNA ('Bond voor Nederlandse Architecten' or Royal Institute of Dutch Architects) at Amsterdam Schiphol Airport on 12 November 1966, a few months before the official opening of the new midfield terminal complex, Constant Nieuwenhuys was suggesting exactly that.[58] He refers to airports, just as railway stations and port building and all buildings related to departing and arriving – travel, as deviating from the city: in contrast to the city of the *homo faber*, travel is for the *homo ludens*. 'Airports', he says, 'most often located outside the city centre, become new centres of activity, but of an activity essentially different from the activities of everyday city life.' He summarizes: 'the airport fulfils the role of social space in a way that in the functional city of today has gradually become impossible.' He adds that, 'the airport of today can be considered as the premonition of the city of tomorrow, the city of mankind in transit.' It is the kind of city/territory where public buildings are no longer monuments and large infrastructures are the constituent facts.

We meet the peak of disciplinary complexity in airport design, involving specialized competences, like for the city itself. The data required from other disciplines, the rules and idiosyncrasies of air navigation – they become part of the architectural end project, requiring a new skill in drawing. The construction documents of airports follow the *Airport Manuals* of ICAO (International Civil Aviation Organization) and IATA (International Air Transport Association), but in addition, they can follow *anthropogeography*, be inspired by '*a catalogue of formal approaches*' and by '*geographic invention*'.[59] After having established what at first glance seems to be a highly technical landscape, underneath a '*firmament of statistics*'[60], new typologies emerge through the different scales and disciplines. The airport territory can be given form

Notes

1. Colonel Hendrik Walaardt Sacré (1873-1949) was the first commander (1913-1919) of the Dutch Air Force when it was still LVA 'Luchtvaartafdeeling'. Quote translated from: A.M.C.M. Bouwens, M.L.J. Dierikx, *Tachtig jaar Schiphol, op de drempel van de lucht*, Den Haag, 1996, p. 50. This is very much the complete biography of the first 80 years of Schiphol, in English: 'Building Castles in the Air: *Schiphol Amsterdam and the Development of Airport Infrastructure in Europe 1916-1996'*, Amsterdam, 1998.
2. See preface to *OverHolland 1*, 2004, p.1
3. NAP (Normaal Amsterdams Peil, or more often mistakenly 'Nieuw (sic) Amsterdams Peil' is the Dutch reference point for altitude measurements.
4. Plesman's role in creating public and policy awareness about the Randstad is generally acknowledged. However, it is said that the 'Urban sphere of influence Holland-Utrecht' maps drawn by Van Lohuizen in 1924 on behalf of the International Urban Development Congress in Amsterdam could have been the real source of Plesmans' insight, making his aerial survey flight a mere anecdote. See: A. Van der Valk, *Het levenswerk van Th. K. van Lohuizen, 1890-1956* (The life work of *Th. K. van Lohuizen, 1890-1956*), Delft 1990, pp. 60. Also see: H. Engel, 'Mapping Randstad Holland', *Overholland 2*, 2005, pp. 5-6.
5. The *Nieuwe Hollandsche Waterlinie* ('New Dutch Water Line') was the strip of land on the eastern edge of Holland that could be flooded for defence. This concept regionalised strategic policy and made it possible to demolish the walls around the individual cities in the West inside 'Fortress Holland' in order to expand (and eventually grow towards each other). See H. Brand, J. Brand (ed.), *De Hollandse Waterlinie*, Utrecht/ Antwerpen 1986. Also see: C. Steenbergen, Johan van der Zwart, *Strategisch Laagland – digitale atlas Nieuwe Hollandse Waterlinie*, Rotterdam, 2006. About the *trekvaarten*, see J. de Vries, 'Barges and capitalism. Passenger transportation in the Dutch economy, 1632-1839', *A.A.G. Bijdragen 21*, Wageningen, 1978, p.72.
6. About the consideration of non-built projects for the study of the city, see A. Rossi, 'Introduction to the Portuguese Edition'; A. Rossi, *The Architecture of the City*, Cambridge, 1982, p.176.
7. An aspect, most famously argued already by R. Banham, 'The Obsolescent Airport', *The Architectural Review*, vol. 132, n° 788, October 1962, p. 250-253. The effect of the uncertainty of the airline economy is also reflected in the aphorism of Rem Koolhaas, 'Airports come in two sizes: TOO big and TOO small.' See R. Koolhaas, 'The Generic City', S, M ,L, XL, Rotterdam, 1995, p.1252.
8. Very telling is the fact that the Schiphol Group actually exports 'parts of the Airport City formula of Amsterdam Airport Schiphol' with Schiphol as the proof of its success through Schiphol Real Estate, for example, by running activities near Malpensa (Milan), by having a stake of 18,75% in the logistic complex *Tradeport* at Hong Kong Airport, and by a joint venture with the operator of Stockholm Arlanda Airport to co-run retail facilities in the North terminal. (www.schipholgroup.nl)
9. B. van Berkel, C. Bos, A. Betsky, *UN Studio: UNFOLD*, Rotterdam, NAi Publishers, 2002
10. An ARCAM POCKET describes the implications for architecture, urbanism, landscape architecture, interior design and art at Schiphol: M. Kloos (ed.), Schiphol Airport Amsterdam ARCAM Pocket 9, Amsterdam, 1996. Exhibitions about airports in general include *Airport / the Heathrow Experiment* , AA Exhibition Gallery/ Front Members' Room, 29 September - 1 November 1997, and a large exhibition at the Chicago Art Institute for which a publication was made: John Zuckowsky (ed.), *Building for Air travel*, Munich, Prestel, 1996. For more recent work, see Alastair Gordon, *Naked Airport. A Cultural History of the World's Most Revolutionary Structure*, New York, Metropolitan, 2004, and David Pacoe, *Airspaces*, London, Reaktion Books, 2001
11 When Marc Augé talks about *non-place*, he means that a particular real place is not a *place*, *anthropologically* speaking: *'Anthropological place is formed by individual identities, through complicities of language, local references, the unformulated rules of living know-how.'* Marc Augé, *Non-places. Introduction to an Anthropology of Supermodernity*, London/New York, Verso, 1995, p.2.
12. M. Foucault, 'Of Other Spaces: Utopias and Heterotopias', *Lotus* 48-49, 1985-1986, pp. 9-17.
13. Jan Benthem, quoted in Eric Holding's review of 'Airport/ The Heathrow Experiment', *AA files* 35, London, spring 1998, p. 57.
14. Gerda Ten Cate, 'Nieuwbouw moet sober en doelmatig zijn', *Bouw* nr. 24, December 1989, p.47.
15. Jan Benthem as paraphrased by H. Tilman, 'Terminal 3 op Schiphol van Benthem Crouwel NACO – Machine of huiskamer', *De Architect dossier 7 Luchthaventerminals*, November 1998, p. 44.
16 Joseph Hudnut already asks in 1941 what the airport's intended 'chronometric exactitude' leaves for architecture. The speed at the airport is all what matters: 'passage from airplane to automobile is so direct and so effortless that one is scarcely conscious of architecture.' Quoted in A. Gordon, ibid., 2004, p. 79, *Architectural Forum*, September 1941, p. 100. The term 'chronometric exactitude' was used before in this context by Le Corbusier, *Aircraft*, The Studio Ltd., London, 1935, p. 10. Architecture in this sense is reserved for hubs, where transfer passengers have to wait for their connections, a much later invention fuelled by airline economics.
17. '*Where to land?*', is a hand-written comment next to a drawing of a cargo and passenger plane (referred to as *cargo de l'air* and *paquebot de l'air*), a map of Europe's air routes that confirm the corridors of the other routes, and a sketch of the four routes: *fer, terre, eau* and *air*. Le Corbusier, *L'Urbanisme des trois établissements humains*, Paris, 1959, p.141 (first published in 1945).
18. For Schiphol's Genesis, see A.M.C.M. Bouwens, M.L.J. Dierikx, ibid., p. 49-51.
19. A.M.C.M. Bouwens, M.L.J. Dierikx, ibid., p.67.
20. A.M.C.M. Bouwens, M.L.J. Dierikx, ibid., p. 53-55.
21. Lowell Thomas, *European Skyways*, London, 1928. As quoted by A. Gordon, ibid., p. 18. Today the lowest airport in the world is actually Furnace Creek Airport in Death Valley with an elevation of 210 ft below sea level.
22. Destroyed by the Luftwaffe in the spring of 1940, a full-scale replica can today be found at Lelystad airport as a part of the permanent 'Aviodrome' exhibition.
23. Amsterdam even proposed to finance an Air Force hangar in Ypenburg to frustrate the ambitions of The Hague and get rid of the military at Schiphol altogether. See A.M.C.M. Bouwens, M.L.J. Dierikx, ibid., p.85.
24. Other examples of this 'ideal' layout, although even further from reality include Paul Mignots' 'Wereldluchthaven', Prix de Rome of 1951 (see AA.VV., *Luchttuigen 1900-1958 & Panamarenko*, Brussels, p. 74-75), which looks conspicuously like the master plan of W. Harrison for Idlewild/later JFK of 1946 that was never executed (see A. Gordon, ibid., p.155).
25. A.M.C.M. Bouwens, M.L.J. Dierikx, ibid., p.140-148.
26. Kosten-eenheden (Ke) is a way to represent the noise pollution of large airports, specifically in The Netherlands, and was designed by a commission led by Prof. C.W. Kosten, conducting interviews from 1962 to 1963. The research of the commission was published in 1967 when the new Schiphol opened. Today the Ke is not considered a very reliable unit to measure the nuisance of aircraft noise and to produce noise contour maps (see F.W.J. van Deventer, *Basiskennis Geluidzonering Luchtvaart*, Capelle aan den IJssel, 2003/4). On the 'relativity' of noise maps and their importance for recent architecture, see W. Rankin, 'Noise, Mapping, and the Architecture of Statistics', R. Hejduk, H. Van Oudenallen, *The Art of Architecture /The Science of Architecture*, Washington 2005, p.371
27. See also below. When the conclusions of the Club of Rome presented as 'limits to growth' were becoming common reference for policy-makers in the 1970s, any further expansion had become a no-no for Schiphol.
28. Lewis Mumford, *Techniques and Civilization*, New York/London (Harcourt), 1934. Reprint 1963, p. 239.
29. Mumford had previously been one of the founding members of the RPAA, the Regional Planning Association of America, set up in New York in 1923 to support study into alternatives to metropolitan cities and matters concerning the regionalisation of the country. Cf. F. Dal Co, 'From Parks to the Region: Progressive Ideology and the Reform of the American City', in G. Ciucci et al., *The American City: From the civil war to the New Deal*, MIT Press, Cambridge, Mass., 1979, pp.143-291.
30. '*La beauté d'un aérogare, c'est la splendeur de l'espace.*' in Le Corbusier, *L'Urbanisme des trois établissements humains*, Paris 1959, p.142. Mumford even talks about the invisible airport: 'From the ground down… as the last crown of a disappearing civilization.' L. Mumford, 'The sky line, millions for mausoleums', *The New Yorker*, 30 December 1939, pp. 49-50.
31. 'The airplane indicts the city. (…) By means of the airplane, we now have proof, recorded on the photographic plate, of the rightness of our desire to alter methods of architecture and city planning. With its eagle eye the airplane looks at the city. (…) Cities, with their misery, must be torn down.' Le Corbusier, Aircraft, London, The Studio Ltd., 1935, pp. 11-12.
32. Cf. Stazione Aeroplani for Milan by Antonio Sant'Elia (1914) (fig.12), a project for Paris by Robert Mallet Stevens (1931), the proposed bateau porte-avions for Paris on the Île des Cygnes between Pont d'Iéna and the Pont de Grenelle, requiring catapults for take-off, by André Lurçat (1932) (fig.13); and last but not least projects by futurists as Virgilio Marchi and Tullio Crali: in the Manifesto of futurist architecture is stated that 'every generation should build its own city' – in the more specific Futurist manifesto for aerial architecture, a linear city is proposed running across Italy from North to South with airports every 50 km (1934). Also El Lissitzky's Wolkenbügel throughout Moscow (1925) would have planes land on top.
33. The results (prize winners, honorable mention designs and a selection of entries) were originally published for the Lehigh Portland Cement Co., Allentown, Pa. in 1930 in New York (Taylor, Rogers, & Bliss). I refer to the reprint: American Airport Designs, Washington, D.C., A.I.A. Press, 1990. Third prize, pp. 18, 22.
34. The Builder, 25 December 1931, p.1046. As quoted in A. Gordon, ibid., 2004, p. 73, from R. Bruegmann, 'Airport City', in John Zuckowsky (ed.), Building for Air travel, Munich, Prestel, 1996, p. 196
35 A.M.C.M. Bouwens, M.L.J. Dierikx, ibid., p.87
36. A similar discussion in the United States left airports outside the concern of federal government until President Truman signed the Federal Airport Act on 13 May 1946.

Airport development had originally been limited to mail routes. To promote passenger travel comparable to mail routes and therefore airport development, Charles Lindbergh flew around the country sponsored by the Guggenheim fund for promotion of aeronautics after his 1927 transatlantic solo flight to Paris. Airports were mostly private initiatives in a time when Europe had advanced state run terminals like Croydon (1928) in London, Le Bourget in Paris, and Tempelhof in Berlin. After Lindbergh, the number of municipal airports increased dramatically. Private airlines started flying between them and as well some private airports. Despite a National Advisory Committee for Aeronautics (NACA) urging government intervention, no federal investment was allowed. Government wished to stay clear of commercial aviation, just as it did from seaports because it was too expensive. See A. Gordon, ibid., p. 22.

37. A parallel with the United States can be seen in the 1926 Air Commerce act that issues pilot licenses, aircraft registrations and designates airways, but stays clear from airport exploitation. According to William P. McCracken Jr., head of the aeronautics branch of the commerce department, it is the 'duty' of every city to build and operate its own airport. See A. Gordon, ibid., p. 22.

38. See note 3.

39. It was still early for the intermodal linkage of air and rail – of which Schiphol today is a good example – although architects had been considering this kind of thing already for a while. One of the earliest examples is the *Stazione Aeroplani* for Milan by Antonio Sant'Elia (1914). Also Richard Neutra's *Rush City* features a monumental terminal building as a transfer node between the underground end station of the railway and the airport on its roof. Later Neutra translated, together with Ain, Harris and Soriano, *Rush City Reformed* into several actual projects of which one was an unsuccessful entry for the Lehigh Airports Competition in 1929. According to Neutra, 'airports would become parts of the worldwide system of transportation (…)' They were going to be 'shaped by the size and nature of planes', but also 'by cities and cities' systems of transportation'. 'Not airports or air terminals were needed, but air transfers.' Rush city renderings provided illustrations for R. Neutra, *Wie Baut Amerika?*, Stuttgart (Hoffmann), 1927. Also see T. Hines, *Richard Neutra and the Search for Modern Architecture*, New York, Oxford University Press, 1982, re-edition 1994. See also Neutra, Richard Joseph. *Life and Shape*. New York, Appleton-Century-Crofts, 1962.

40. What might sound absurd, but something that made complete sense in the 1960s when highways were starting already gridlocked in Los Angeles. Banham mentions commuter airlines that offered scheduled service between different airports within the L.A. area. R. Banham, *Los Angeles: the Architecture of Four Ecologies*, London 1971, p. 73

41. Rotterdam would build its new airport, only after the war, in the Schieveen polder just north of Zestienhoven. A.M.C.M. Bouwens, M.L.J. Dierikx, ibid., p.146. Rotterdam lost Waalhaven in the war and rebuilding it did not make sense considering its obsoleteness in the faces of larger aircraft types already before the war. Impatient about the outcome of negotiations with the government about Schieveen, a heliport was inaugurated just besides Hofplein in 1953 from which Sabena scheduled service to the hub of their helicopter network in Brussels. When Rotterdam airport opened on October 1, 1956, British airliners started service to the UK. (see 'Bruisend Rotterdam', 1954 and 1957)

42. The fourth CIAM meeting was to be held originally in Moscow, but the Soviets withdrew the invitation. Eventually it was held on the SS. Patris leaving Marseille in July 1933, setting sail for Athens. The famous Athens charter was published only in 1942 by Le Corbusier.

43. Dienst R.O. Amsterdam, *Algemeen Uitbreidingsplan van Amsterdam*, Amsterdam, 1935, p.49.

44. At Zeeburg the Dutch navy had already established the naval air station Schellingwoude in April of 1916 and expanded it in 1921-1922. Just before Schiphol was opened for civil operations in December 1920, Amsterdam had contemplated the construction of a combined water and land aerodrome at Schellingwoude, a plan that was abandoned due to high costs and long construction time.

45. Dienst R.O. Amsterdam, ibid., p.49.

46.Dienst R.O. Amsterdam, ibid., p.49.

47. Dienst R.O. Amsterdam, ibid., p.49.

48. A.M.C.M. Bouwens, M.L.J. Dierikx, ibid., p.100. Another example of a lake built for seaplanes is the 'Idroscalo' of Milan, just east of the Linate airport terminal.

49. Originally, 16 sites were suggested: Barneveld, Biesbosch, Dinteloord/Steenbergen/Tholen, Breda/Tilburg, Grevelingenbekken, Hoekse Waard, Kockengen, Leerdam, Second Maasvlakte, North Sea Island, Eastern Flevoland (between Harderwijk and Lelystad) and Reimerswaal. A.M.C.M. Bouwens, M.L.J. Dierikx, ibid., p. 294, note 150.

50. These studies showed rather absurd ideas, for example, two sets of parallel runways located in each other's prolongation in order to have a combined noise footprint.

51. Schiphol is allowed to grow 'in a controlled fashion' within certain environmental parameters where it is at now, the government decided in December 1999. A fifth (2003), possibly a sixth and seventh (2020) runway, quieter planes and better approaches have to make that possible.

52. Insulinde is the name invented by Eduard Douwes Dekker, author of *Max Havelaar* for the Dutch East Indies.

53 On 12 November 1919, the Smith brothers Ross and Keith, departed from London in a Vickers Vimy bomber on the first flight to Australia, making stops in the Dutch East Indies on the way.

54 Jakarta today: 'the 1996 joint venture between Schiphol and PT Angkasa Pura II, dealing with airport exploitation in Jakarta and Medan, was transformed in 2003 into a platform for strategic development with the emphasis on exporting the AirportCity formula.'

55. OMA was part of a multi-disciplinary team chaired by Schiphol Group and KLM studying how to accommodate the future growth of Schiphol.

56. The hubs of today are airports for airlines, where passengers are processed, faithful more than ever to the acronym used by airport planners in the 1970s when referring to a terminal: 'PPS' (Passenger Processing System). Standards here are not only about building codes, but also about air navigational aids and rules, prompting the 1954 Business week report that airports turn to engineers. Business Week, 1 May 1954, pp. 92-94. Also see S.U. Barbieri, 'Schiphol-Amsterdam-Olanda – un aereostazione di transito', Stazioni e aeroporti – le nuove porte della città del duemila. Conference proceedings of the third symposium international partners Europe held in Turin, May 27-29, 1996, published Turin, 1997, pp.15-21.

57. OMA/Rem Koolhaas, 'Project SchipholS' (1999), published in: *A+U Architecture and Urbanism 'OMA@work.a+u'*, May 2000 special issue.

58 C. Nieuwenhuys, 'Over het reizen' in: *Opstand van de homo ludens. Een bundel voordrachten en artikelen*, Bussum, 1969, pp.82-93.

59. See: V. Gregotti, *Il territorio dell'architettura*, Milan, 1966.

60. Robert Smithson, 'Towards the development of an air terminal site' (1967), in J. Flack (ed.), *Robert Smithson, The collected writings*. New York 1969, p. 52.

Railway station: monument versus multi-use terminal
The case of Amsterdam Central Station

Roberto Cavallo

The typology of the railway station is progressively changing. Technical and functional updates, constantly changing heterogeneous commercial activities, restyling and the accommodation of high-speed railways are some of the transformations that existing railway stations are undergoing. In addition, there is a constant need for optimizing the connections between railway stations and public transportation under and above the ground. As a direct consequence, building programmes are becoming so complex that it almost seems impossible to provide an appropriate solution to these problems in terms of architecture. From a functional point of view, the most recurrent choice today is the multi-use terminal, a building often characterized by an unclear relationship with the urban texture and in which the travelling function becomes secondary. Besides other issues, in this framework it makes sense to raise questions about the future of the existing railway station, a building strongly related to its urban context and often part of the collective memory of the city.

The situation mentioned above applies to several railway stations in The Netherlands. The attempt of finding an answer to the complicated programmes is often translated into interventions that vary from a partial substitution to the complete demolition of existing stations in favour of new multi-use terminals. Only a few stations have survived this operational logic, usually because of their historical and architectonic value.

This is the case of Amsterdam Central Station. As one of the most important monuments of the capital city, Central Station is a building with an outstanding character and is a well-known symbol of Amsterdam. The area surrounding the station including the historical building is also known as one of the biggest construction sites of The Netherlands.

Starting with the description of the original situation of the railway yard in Amsterdam and the building of Central Station, this article focuses on the current transformations of the site in question, with particular attention paid to the way in which the historical building and new interventions come together.

The first Dutch railway lines and the urban setting of Amsterdam Central Station

On 20 September 1839, the first railway in The Netherlands was put into use between Amsterdam and Haarlem, 14 years after the first railway line, the Stockton & Darlington line in England. The introduction of the railroad in The Netherlands was not easy for many reasons. Once its section established, the building of a railway line required many bureaucratic permissions, a clear plan for the expropriation of land and last but not least, a huge amount of money. For these reasons, the development of railway lines generally took more time than originally planned. In addition, from an economical point of view, there were more uncertainties in The Netherlands than elsewhere. The investors who would finance the first Dutch railway line had to compete with an existing mass transportation system over water. For more than 200 years, the Dutch economy relied on an extensive network of canals where, besides the transport of goods, inexpensive passengers services were widely offered. Therefore, it was not just a coincidence that the first Dutch railway line was positioned parallel to the existing canal connecting Amsterdam to Haarlem. In this way the HIJSM *Hollandsche Ijzeren Spoorweg Maatschappij*, the first Dutch railway company) could literally take over the passenger traffic from the barge service active on the adjacent canal. The two terminus stations Willemspoort in Amsterdam and Amsterdamsche Poort in Haarlem were situated at the start and end of the tracks. After 200 years of service, quicker trains meant the decline of barge transportation between the two cities.

Besides the railway to Haarlem, the one to Utrecht also started from another terminus station called Weesperpoort (1843), located on the east side of Amsterdam. The presence of two terminus stations in the capital city caused problems in the following years, especially logistic ones. In 1860 the Dutch government commissioned a new link between Amsterdam and the city of Den Helder, located in the north. Due to this new railway line there was a need for a third terminus station in Amsterdam. For several reasons, it was impossible to end this new line in one of the two existing stations. The nightmare of having three terminus stations came too close to reality and the city rejected the idea. In the meantime, the discussion about creating a national network without interruptions in the capital became an increasingly important issue and offered the opportunity of making plans for a central station in the city. The debate about where and how the new station had to be built took at least 10 years. In 1865 a commission was set up under the leadership of J. A. Waldorp, who was chief engineer of the state railways, in order to investigate the best place for the station.

Besides the railroad, Amsterdam had problems developing its harbours. Despite the construction of the North Holland Channel (1824) and the building of the new Eastern and Western Docks (1832 and 1834), the harbours of Amsterdam, where the average size of ships gradually increased, has troubles with flowing-in tides and being choked up with sand. Nevertheless, the Waldorp commission advised the construction of a central station at the IJ, the inner sea facing the city centre. The main reason for this decision had to do with the increase in navigation in the port of Amsterdam and the important support of the railway network being close to it.

From the beginning, building railroads was the domain of the engineer. Together with railway techniques, engineers also decided which buildings and infrastructures were needed for railroads. The need for standardization in building railways offered Dutch engineers the opportunity of designing stations as well.

Although the results were good in terms of building speed, the lack of architectonic experience could be seen in engineers' practice. In his book, *Centraal Station Amsterdam, Het paleis voor de reiziger,* Aart Oxenaar stresses that the discussion about the location of Amsterdam Central Station on the IJ did not take into account aspects such as the beauty of the city. Many historians, including Brugmans, still consider this project an enormous affront to the centre of Amsterdam. In fact, all the arguments and reflections were mainly formulated from the viewpoint of the city's economic development.

Finally in 1876, where the contract between the government and the municipality was signed, the city of Amsterdam had already given the permission to centralize the existing tram network at the location of the future central station. Long dikes, viaducts, high and partly moveable bridges were built very quickly, and the railway section between Zaandam and Amsterdam had been put into use as early as 1878.

The image of Amsterdam from the water changed rapidly as the physical barrier of the railway yard replaced the historical walls of the fortification. The new railway yard influenced not only the image but also the morphology of the city. A sharp and currently perceptible division between the historical city and the developments on the north side of the railway was originally caused by the presence of this railway yard.

Like in other European countries, architects had a marginal role in the construction of railway buildings in the Netherlands. As mentioned above, stations as well as railway yards were considered infrastructures and therefore built following a mainly functional approach. Fortunately, the case of Amsterdam was slightly different, although there was no clear understanding of what this project would really mean for the city. The most important ideas were the ones regarding the status of Amsterdam as capital city of The Netherlands and its position within Europe. The planned World Fair of 1883 along with projects like the Rijksmuseum and the new central station was an opportunity to clearly place Amsterdam on the European map.

In 1876 when Pierre Cuypers was appointed chief architect of Amsterdam Central Station it was the first exception to the railway practice of Dutch engineers as well as a strong admission of the station being an important public building for the city.

The Cuypers project

As stressed above, building a railway station in the 19th century was the task of a railway engineer. In the Dutch railway legislation of 1862 there was a list of conditions for building stations and their programmes, which Dutch engineers applied directly to the design of stations. In fact, Dutch railway stations were divided into five different classes, all with standard floor plans. It is probably for this reason that there are no documents about the actual building programme of Amsterdam Central Station. The commissioner probably considered the conditions contained in the law of 1862 together with the standard floor plan of the biggest type of station sufficient for this assignment.

According to the agreement with the city of Amsterdam, Cuypers had to work on this commission together with A.L. van Gendt who had experience in building railroads. Nothing is known of their collaboration. However, it is known that van Gendt did not play any role in the actual design work of the station. The composition of this building is clearly that of Cuypers, inspired by Renaissance and Baroque palaces. The long-drawn symmetrical plan also has much in common with the organization of some Palladian villas and does not exactly correspond with the plans of a standard station. Cuypers attributed the choice for this quite long building to the size and shape of the location. In the text accompanying his first preliminary design, he points out the fact that a sufficiently big square in front of the station was required in order to accommodate other types of traffic like omnibuses, coaches, etc. As far as style is concerned, the commissioners of Cuypers already decided beforehand that the station had to be built in Old Dutch style, without being explicit about what this actually meant. Taking this into account, Cuypers tries to find in the explanation of the project elements common to the station as well as to a typical Old Dutch house. Despite Cuypers' efforts, it was clear that there was not much in common between the two. As well, the Minister of Transport expressed his disappointment in a note about the style choices of the architect. Nevertheless, after months of discussion inside and outside the official circuits, the proposal was accepted and Cuypers could continue with his work.

The first design for the station had to be modified several times before being built. Cuypers had some trouble integrating the standard elements of the Dutch stations, such as the platform roofs, into the main building. Another problem was the crossing of incompatible streams of traffic due to the contemporary use of the station on the same level by trains and passengers.

Comparing to the first version of the project, the floor plan and distribution of the building in the final design were changed and improved by inserting passenger tunnels. The train platforms were connected to the tunnels through stairs, directly linking them to the main hall. In the final design one can see the middle part with towers, the right and left wings, and the end buildings connected to the facilities wings. Cuypers brings together all these parts into a clear composition. The façade is also very clear with its symmetrical set. In the composition of the elevations, the entrance, departure hall and royal waiting room are accentuated with higher roofs corresponding to the most representative part of the building. The towers in the middle zone of the building clearly refer to the architectural theme of the station as being the gateway to the city.

The utilitarian vocation of the railway generally offered plenty of opportunities to experiment with new materials and techniques improved during the 19th century. Although not considered as material *par exellence,* iron is especially widely used for the construction of railways. Not only for tracks but also for building shelters, other covered structures and even the main station buildings, iron proved to be a very reliable material with much potential. Cuypers was aware of this, but in the basics of his building he preferred sticking to the mediaeval tradition of vaults. As Oxenaar observed, it is exactly in the optimisations of traditional constructions the field where Cuypers achieved high rational results. In one of his articles about the building, Cuypers specifies that the materials should mostly come from national resources, which is why brick plays a main role in the building of Amsterdam Central Station. The architect designed self-supporting brick walls for the elevations and relegated the use of iron merely to the skeleton of the roof and construction of the awning. Furthermore, semi-circular steel and glass sheds were built to cover the railway tracks, a necessary structure that the architect could not avoid.

An interesting aspect of the Cuypers' building is the variety of decorations. Each of the different functional parts of the complex can be seen in the façade thanks to recognizable and appropriate decoration patterns. Like for the Rijksmuseum in Amsterdam, Cuypers applies a widely developed iconographic work to the station, with as a main theme the Dutch railways and its relevant actors. For the reconstruction of the facts and the proposal of the tables, Cuypers was advised by his brother-in-law, famous writer and publisher J. A. Alberdingk Thijm.

Building Central Station meant a lot for the city. The station quickly became the main gateway to the city and one of the most representative buildings of The Netherlands. As the most important traffic node in the city, the position of the station would have a major influence on a number of remarkable projects like the rebuilding of the Damrak, the Stock Exchange building of Berlage, Dam square and the Rokin.

The present intervention: 'Stationeiland' ('Station Island')

With some 250,000 to 300,000 travellers a day, Amsterdam Central Station is currently the busiest station in The Netherlands and is one of the most important traffic nodes of the country. Trains, ferries, buses, trams, subway, taxis, pedestrians and cyclists all converge here, causing daily traffic congestion. Besides the high volume of traffic, the lack of well-developed mutual connections between these means of transportation contributes to the daily chaos in and around the station.

Although the city has been constantly working on the site, the station currently requires improvements to be ready in order to accommodate the upcoming high-speed train. In reality, it is not the high-speed train but the construction of a new subway line underneath the historical station that is the main reason for a complete reorganization of this traffic node. The new proposal aims to link all means of transportation in a multi-level building. The overall project is the result of the collaboration between Benthem Crouwel architects and the technicians of the city of Amsterdam.

The historic building erected on approximately 9,000 wooden piles is currently one of the biggest building sites in the centre of Amsterdam. Here, in order to build the subway station underneath, part of the original foundation is being removed using an underground concrete plate able to support the central part of the building. Only earth is removed and not water, keeping the rest of the existing foundation safe. In addition, besides accommodating the new subway line, the huge construction site of the station has new terminals for ferries and buses in the new extension facing the water. The building of the new tramline to IJburg (a new housing island artificially created in the IJ) and the refurbishment of the front square complete this huge intervention.

The building of this project is divided into phases. Currently, construction is ongoing for the tunnel of the new subway line and its new station placed perpendicularly to the orientation of the historical building at a depth of 15 meters below ground level.

For the architects this is the chance of integrating all means of public transportation into one traffic node, creating the opportunity to improve the quality of the surrounding public spaces. Another phase in this intervention will be the displacement of the bus terminal from the front to the back of the station, freeing up precious space and allowing a better interaction between the existing building and the city centre. The new bus terminal will be built right next to and on the same level of the railway tracks along the water, placing it higher than street level. All motorized traffic will make use of a new tunnel parallel to the railway tracks running underground and positioned between the subway line and the ground floor level. Besides improving traffic congestion, by applying this solution, architects created a larger pedestrian hall on the ground floor simultaneously connecting ferry and bus terminal with the new subway line and the existing ones.

As for volumes, the existing complex of the railway station will be modified only on the north side along the water. Here, contractors are currently working on building new foundations under the new bus terminal. The project of Benthem Crouwel foresees the construction of one additional mega-structure almost containing the entire extension. In terms of form, this steel and pre-curved glass structure echoes the existing semi-circular railway sheds. The proposed solution offers many possibilities as regards the future openness of the railway station towards the IJ and the new ferry terminal. At the urban level, the project intends to create a long pedestrian axis which starting from the water goes through the existing station and, connecting with the Damrak, arrives at Dam square. Except the trams that will remain, a long pedestrian boulevard will then characterize the most representative part of Amsterdam's city centre.

As for dealing with the historical building of Cuypers, the approach of Benthem Crouwel architects is quite straightforward: trying to restore the building as much as possible and bring it back to its original state. In the past, this building was often modified through interventions that never took into account the relationship between the existing interior and new additions. Except for some parts of the main entrance hall, the result of these changes made Cuypers' rich interiors almost invisible. As well, the constantly increasing number of commercial activities, all with their own different look, contributes to the further fragmentation of the inner space. In the project of Benthem Crouwel architects there is a strong will to clean up the existing halls of the building and reordering the commercial activities following a common interior layout. The aim is to reduce the formal disorientation of the interiors as much as possible and organizing the inner spaces of the building according to a clear structure.

Together with this commission, the Benthem Crouwel firm is working on all stations of the new subway line in Amsterdam as well as the railway stations of The Hague CS, Utrecht CS and Rotterdam CS, where they collaborate with Meyer & van Schooten, Venhoeven, and for landscape architecture West 8. For this reason, their work will have a major influence on the way railway terminal buildings in The Netherlands will look like in the near future.

Rapidly analyzing all the above-mentioned interventions, it is clear that there is no univocal architectural approach. The question of how the existing railway station as part of the collective memory of the city can be architecturally assimilated by the logic of the new multifunctional railway terminal cannot yet be answered. Every single project depends too much on specific conditions and so there is no main architectural theme. In this framework, Amsterdam Central Station can be considered an exception. In this project, the Benthem Crouwel firm tries to integrate the multifunctional character of contemporary stations into the romantic idea of the railway building as a gateway to the city.

'Tolerant' urban development
The aesthetics of the Raadhuisstraat in Amsterdam (1895-1899)*

Ed Taverne

From the middle of the nineteenth century, the rapid growth of cities and the arrival of new forms of traffic and mobility resulted in the construction of shopping streets and city boulevards, not only in European but also in many American cities. In general, these could only be realized after radical interventions in the city, which demanded a new form of urban planning. Here not only vehicular technological interests were at stake, but also those of urban commerce, public hygiene and urban aesthetics. In addition, a more systematic approach to urban planning provided a new social élite from the realms of administration, economics and culture with an instrument for making urban space the bearer of political and social values. The model *par excellence* for such radical urban surgery was the new street plan of Paris, designed by Baron Haussmann and Napoleon III, with the Avenue de l'Opéra (1878), conceived as a single uniform construction, the finishing touch. Although few cities could allow themselves such costly street construction, the influence radiating from Paris is apparent in almost every city around 1900.[1] For instance, the City-Beautiful Movement in North America is a wonderful example of a Paris-oriented urban doctrine, and has had a visible impact on the beautification of cities such as Chicago, Philadelphia and Washington DC. In the second half of the nineteenth century, similar operations also took place in numerous European capitals, which, although they were probably less rigorously organized in architectonic terms than those in Paris, are nevertheless impressive and didactic examples of urban reconstruction at the turn of the century.

Recently, Schubert has pointed to the significance of the urban breakthrough in Kingsway-Aldwych in London (1889-1935), while Daniele Regis has discussed that of the Via Diagonale in Turin (1885-95).[2] Today I would like to turn your attention to another 'Haussmannization' which, unfortunately, has been neglected in international circles: that of Amsterdam, with, as its centerpiece, the layout and construction of the Raadhuisstraat behind the Palace on the Dam square (1895-99). In a Dutch context, this was a large-scale building project with an abundance of aesthetic, economic and technological implications, which together give a fascinating picture of the rise of the modern *Groszstadt* around 1900 as the outcome of the interaction between the city as an intellectual idea and as a physical artifact.

Un-Dutch boulevard

In the last two decades of the nineteenth century, the Amsterdam *straatbeeld* (cityscape) was the scene of radical changes, which arrived rather late in comparison with Vienna, Paris or London. From 1865 onwards, construction was carried out outside the old city fortifications for the first time in two hundred years. This took place hesitantly at first, but soon developed at a furious rate. Amsterdam had to accommodate a population that almost doubled in the period between 1850 and 1890.

The enormous building excavations in the city center were more dramatic, covering a number of large-scale projects such as the Rijksmuseum (National Gallery), completed in 1883, and the Central Railway Station dating from 1889, which, as a result of their confident placement at the north and south edges of the city, were intended to furnish it with a modern appearance. In the interminable series of filling in, demolishing and constructing within the heart of the city and along the inner ring of canals, the construction, in 1895, of a road running westward took on an emblematic meaning. The new road was directed at creating the link between the Palace on the Dam Square and the Westerkerk (West Church), for which a substantial breach in the existing urban structure was necessary between the Herengracht and the Keizersgracht. The result of this intervention was the Raadhuisstraat, with an almost un-Dutch boulevardesque allure. The new, neo-Renaissance Post and Telegraph Office, and a modern tower-block, the so-called 'Witte Huis' (White House), marked the beginning of this street, right behind the Palace. The half-open arcade dating from 1897, commissioned by an Assurance Company and situated in the curve between the Herengracht and the Keizersgracht formed the pinnacle of this project. With the construction of this modern street full of office and shopping facilities, a new phase in the history of urban form in Amsterdam was ushered in.

It was new because in Amsterdam, just as in other similar projects such as the planning and construction of Kingsway-Aldwych (1889-1935) in London, and the Via Diagonale in Turin (1885-1895), the monumental showcasing of offices and a shopping arcade was a reflection of a new conception of the city that had its roots in aesthetics, economics and technology. And here, in this Amsterdam architecture of shops and offices, French ideas on the aesthetics of the cityscape and urban experience were combined with the local appreciation of the picturesque, in other words, the Old Dutch townscape. At the same time, the route of the Raadhuisstraat, as an attractive feat of urban technological development, was a confluence of new amenities in the fields of hygiene and transport. Finally, the offices and shops were examples of modern commercial architecture that made use of the most recent American construction typologies and methods.

Although in terms of surface area, the street is comparable with contemporary shopping streets in Paris, London, Milan or Turin, the design and construction of the Raadhuisstraat should nevertheless be seen as a component of an ambitious local project, namely, the transformation of Amsterdam into the center of banking, culture and colonial trade, thus, into a modern city with international allure. To this end, the inner city, just as many inner cities in Europe and North America, had to be adapted, requiring, in particular, improved accessibility from the peripheral housing districts, of the Dam Square and its immediate surroundings comprising offices, stores and the new Exchange.

With this in mind, the Dam in Amsterdam became the starting point and the terminus of a system of new, city axes which, corresponding to the method introduced by Haussmann in Paris, were visually anchored in the city by 'tower blocks' or skyscrapers in the form of hotels, stores, and offices that furnished the city with a new urban proportion and profile.[3]

Experiencing modernity

In the first few months of 1898, the renowned Amsterdam painter George Hendrik Breitner took more than thirty photographs and made an etching, one gouache painting and certainly two oil paintings of the construction site of the shopping arcade in the Raadhuisstraat in Amsterdam.[4] Breitner's fascination for building sites, demolition and new construction was not an isolated event. It is not, as is often suggested, an undiluted artistic protest against *Stedenschennis* (Violation of the City), but it is rather an expression of a much more refined interest: the observation of the kaleidoscopic form of modernity in the new Amsterdam cityscape.

This concern did not restrict itself to Breitner or to the Dutch painters of the time; it was more a feature of the reshuffling of aesthetics and social practice. It is an aesthetic reorientation towards the contradictory aspects of modern life that we encounter in the writings of Baudelaire and Marx, in the painting of Courbet and Manet, right on into the work of the American photographer Stieglitz and the painter Max Weber.

The direct reproduction provided by paintings of scenes from the everyday lives of city dwellers on the streets, at the station, in parks, at the racecourse and also in alleyways and slums, has been a special theme of recent art-historical research. In 1937, the American art historian Meyer Schapiro wrote in an essay on Abstract Art: 'Early Impressionism, too, had a moral aspect. In its unconventionalized, unregulated vision, in its discovery of a constantly changing phenomenal outdoor world of which the shapes depended on the momentary position of the casual or mobile spectator, there was an implicit criticism of symbolic social and domestic formalities, or at least a norm opposed to these. It is remarkable how many pictures we have in early Impressionism of informal and spontaneous sociability, of breakfasts, picnics, promenades, boating trips, holidays and vacation travel. These urban idylls not only represent the objective forms of bourgeois recreation in the 1860s and 1870s; they also reflect in the very choice of subjects and in the new aesthetic devices the conception of art as solely a field of individual enjoyment, without reference to ideas and motives, and they presuppose the cultivation of these pleasures as the highest field of freedom for an enlightened bourgeois detached from the official beliefs of their class'.[5]

Only many decades later did Schapiro's observations become the direct cause of a range of fascinating studies, such as those by Clark (1984), Robert Herbert (1988), Frascina (1993) and Boime (1995), in which French nineteenth-century paintings are viewed in a new light, and questions are raised concerning public hygiene, urban planning and a variety of social behaviour.[6] These are studies that have also led to public exhibitions in museums, like the recent one in London devoted to *Seurat and the Sewers* (1996/7), or the one on *Manet, Monet and the Gare St. Lazare* which is currently being held in Paris and which will shortly travel on to Washington[7].

What makes this social history of art especially spectacular is that it is not the topographic identification of modern city life that is being dealt with: the cartography of boulevards, station buildings, bridges, factories or suburbs; it is rather the distillation of the *modernité:* the experience and sensation of modern life. The work of art is regarded as the artistic representation of contemporary social issues and of the intellectual debate on these. The fact that the city of Paris, and in particular the demolition and breaches effectuated by Haussmann, assumes a central position will surprise no one. Paris was not only the *icon* of the modern metropolis in architectonic terms, it was also the theatre of the modernization of society, and the place where all the contradictions associated with this phenomenon manifested them to an intensified degree[8].

It was Baudelaire who recognized the principles of a new aesthetics in the social and architectonic morphology of the changing Paris. It was one that was not dogmatic or academic, but was anti-metaphysical; it was one that was independent of the classical doctrine of beauty as propounded by Winckelmann for example. It was also not exclusively related to nature and the landscape, but was a

beauty that was 'toujours bizarre' and dependent on the surroundings, the climate, morals and customs *and* the temperament of the viewer. It was a beauty that could be perceived more by the senses than by the mind, and for which Baudelaire generated a new literary figure: that of the *flâneur,* the lounger.

The flâneur has a splendid eye for the real heroics of life in its process of modernization, and is capable of distinguishing this in improbable situations and at uncanny places: prostitutes on bridges and in alleyways, absinth drinkers in bare cafés, or house painters and parquet sanders in apartments on the new boulevards. But in 'catching' the essential dimensions of modernity, in Baudelaire's opinion, the *flâneur* is surpassed by the 'ideal painter of modern life' because he is the only person who is occupied with the two inseparable aspects of modernity and is capable of combining knowledge of the eternal and steadfast laws of artistic tradition with an open eye for contemporary experience of the ethereal, the temporary and the apparently futile.

It is, of course, very enticing to view Breitner and his paintings in which maids, working-class women, transporters and *gamins* scurry between the motionless canal facades of a grey and misty Amsterdam, as the ideal painter of modern life, as invented by Baudelaire.[9]

Before dealing with this subject, some attention will have to be given to the *reception* of French ideas of *l´esthétique et la rue* in the Netherlands, and especially in Amsterdam in the literary circle *Nieuwe Gids* (New Guide) which, from 1886 onwards, Breitner frequented with writers and poets such as Willem Kloos, Albert Verwey, Herman Gorter, Frederik van Eeden, and also with fellow painters like Jacobus van Looy, Jan Veth, Isaac Israëls and Willem Witsen.

In his *opus magnum* on Dutch theory of architecture in the nineteenth century, Van der Woud has rightly declared that in the literary milieu of the *Tachtigers* (the Eighties Group) and their journal *De Nieuwe Gids,* a critical language was generated in which contemporary architecture could be discussed in a new manner.[10] At the same time, this new architectural criticism drew its inspiration from a changing literary and aesthetic sensibility concerning the physical environment, and especially the ambience of the city. The poets and painters that were involved in the Eighties Group movement were not only attached to Amsterdam in a social manner. In their work: novels, poetry, reviews, paintings and photographs, they also created a new and diverse picture of urban life that was sometimes picturesque, sometimes gloomy but almost always based upon subjective perception. In the same way that ten years previously the painters of the Hague School had portrayed the landscape as an unadorned, carefully selected, non-modern reality, a new image of the city was created in Amsterdam in the mid-eighties: the city as *locus* of change and modernization, with unavoidable, tangible facets that not only stimulated the senses but also gave rise to feelings of anxiety, confusion and aversion. It was a painted, photographed and reported city, which can be retrieved in a thousand-and-one ways from the architecture of the new cityscape of which the Raadhuisstraat is such an expressive example.

City realism

As mentioned, the fascination of Breitner, as a photographer and painter, for the *non-poetic* countenance the city: for the degeneration and the seamy side of everyday life, the desolation of empty streets and the confusion of workhorses at building sites or tram stops, is not an isolated occurrence. We meet this again in the work of the American photographer Alfred Stieglitz, which he made in New York from 1892 onwards. These photographs were not so much intended as an artistic representation of the picturesque cityscape, but more as the highest individual appropriation of the city as the environment. In this way, directly after his return from Europe where he had made picturesque shots in Venice and Katwijk aan Zee among others, Stieglitz was deeply struck by the cityscape of Manhattan: by horse-drawn trams struggling through a snowstorm or the intimacy of drenching steaming horses in the bitter cold. Stieglitz noted in his diary: 'There seemed to be something closely related to my deepest feeling in what I saw, and I decided to photograph what was within me'.[11]

If there is any kinship between the photographic work of Breitner and his American counterpart, it is to be found precisely in that response of individual feeling to the city as ambience and tableau and in the fixed determination to convey those emotions in a pointed and succinct image. The artistic compulsion to do this is not so much based on the peculiarities in the lives of Stieglitz or Breitner, but has everything to do with the nervous qualities of the cities themselves, with the synergy of modern traffic, the electrification of quays, streets and squares and a scaling-up of commercial architecture. And, last but not least, this also involves the artistic susceptibility to this, under the influence of a new aesthetic culture in which art was simultaneously regarded both as lyrical self-expression and as a form of science.

In the new aesthetic sweep that occurred in Amsterdam halfway through the eighties, the work of the French philosopher and historian H. Taine was an important reference point. In his *Philosophie de l'Art* (1864), the beauty of the work of art – a painting, poem, novel or building – was less linked to metaphysical values such as purity, simplicity or morals, and was more aligned to the influences of race, milieu and moment.[12] The work of Taine resounds not only with echoes of the aesthetic categories of surprise and variety previously stressed by Baudelaire and Poe, but also with the effects of a changing view of historiography as expressed by historians such as Michelet, Guizot and Thierry in their colorful analyses of the material aspects of civic life.

In this way, a new aesthetics could be constructed on the fertile and richly varied humus of literature, philosophy and science – an aesthetics from which new points of view on the city could be formulated, such as that of the *city panorama* for example.

In *Notre Dame de Paris, 1842* (1831) Victor Hugo transports his reader upwards via the *ténebreuse spirale* of the stairs of the belfry of Notre Dame cathedral from where, in a single panoramic moment, not only the city but also history can be surveyed. A wonderful literary tradition began with the work of Victor Hugo, in which the panoramic view brings both pure visual sensation and intellectual satisfaction. The panorama provides not only a *view* of history but also incites a historical *experience* by challenging the spectator him/herself to form a *tableau* of the medieval town from the chaotic mass of houses with roofs and awnings, chimneys and roof terraces, towers, streets, bridges, quays and alleyways: 'Let the Paris of the fourteenth century rise again, rebuild it in your mind; see the daylight through those surprizing array of needle towers, watch towers and bell towers; take the Seine with its wide, green and yellow expanses of water, changing color more rapidly than a snake's skin, split it at the islands and fold it at the bridges; draw clearly against an azure-blue horizon the Gothic silhouette of ancient Paris; conceal its outlines in a winter mist that clings to countless chimneys; drown it in a deep night and watch the temperamental play of shadow and light in that sombre maze of buildings; throw a moonbeam across it, revealing it nebulously, and let the great heads of the towers doom up out of the mist'.[14]

Even more than *the panorama,* which also required a mechanical equivalent in the architecture of urban panoptics, the *street* became the central theme *par excellence* in the new aesthetics. The street appeared in the nineteenth-century novel as the most lively and authentic reflection of the city: it was not only a mirror but also chiefly the form and embodiment of modern, contemporary lifestyle.

In the novel, the street is not a neutral *location,* an anonymous theatre for the exchange of money, goods and people. From Balzac via Flaubert to Zola, the street is adopted in a subtle manner into the everyday reality of the urbanite. In Gogol's *Nevsky Propekt* (1834), the first of the St Petersburg narratives, the shock effect of modern, urban life in the story is made almost physically tangible by the exaggerated perspectival presentation of the boulevard.

In the nineteenth-century novel, the city as a naturalistic phenomenon began to take on a subjective quality. Its streets, squares, gardens, parks and silhouette are tested against their ability to portray memories, emotions, anxiety and drama. The most penetrating depiction is probably presented in the *cinematographic* style of Gustave Flaubert. In contrast to novels such as those by Balzac, for example, where the city is often inertly present and little more than an obligatory accessory, in Flaubert's novels the story is also narrated by the wet cobblestones, by the color of the river, by the inscriptions, vague and enigmatic, on blank walls, with shop windows as billboards. Under Flaubert's hands, buildings and streets become almost independent personages. [15] The `surviving *carnets* (notebooks) show that Flaubert viewed and noted exceptionally systematically. De Biasi, the editor of Flaubert's *carnets,* typified his fieldwork as *notes de réperages cinématographiques* (notes of cinematographical discoveries) because Flaubert not only rigorously selected the city – a street, facade or landscape – as an art director would, but immediately converted it and made it subordinate to movement and actions.[16]

Borne by literature, philosophy and science, it is this modern aesthetics, in which the city has been discovered as a personage, as a constructed chronicle of history and as an object of aesthetic observation, which has set the tone for the technological and especially architectonic vision on the city in the oldest *incunabula* of urban specialist literature – the writings of Reynaud, Daly and Alphand, and, extending from these, the writings of Baumeister, Stübben and particularly Camillo Sitte. It is this aesthetics which, in a broader context, has brought about a modification in geographical interests and has definitively drawn attention away from cities like Rome and Athens towards Paris, city of the World Fair, capital of Europe, city which has mesmerised almost every architect. This attention was drawn further afield, to St Petersburg, Venice, London, Brussels, Berlin, Munich, and still further – to Tunis, Port Saïd, Calcutta and Haïti.

It is a new eclectic view, one that is no longer seeking authorizing examples, but one that is driven by a critical interest for the technological, aesthetic, and economic sides of urban transformations. And it is in this changing geography of aesthetic preferences that also the Dutch historical *grachtensteden,* and Amsterdam in particular, was discovered as the prototype of the so-called picturesque cityscape. This is an observation that we encounter in travelogues from Harvard, De Amicis and even Henry James.[17]

Aesthetic seeing

If we give any credibility to the writer and painter Jan Veth, George Breitner was drawn to Amsterdam in 1886 chiefly because the city made such an impression upon him due to its 'great picturesque quality'.[18] Moreover, he was attracted to the 'intellectual life of young people in the Amsterdam of that time'.

In Amsterdam, Breitner landed in an artistic milieu that rebelled against the current artistic establishment, particularly against an aesthetics dominated by rules and conven-

tions. While the academic position on art was indeed to an increasing degree *urban*, influenced by books, journals and a social life ever more geared to image and sound, nonetheless, it was still hermetically sealed off from all forms of urban experience due to countless conventions and rules. These academic aesthetics had no eye for events in the modern city that were displeasing, indecent and malodorous, or for all those *non-poetic* aspects of the city panorama that could arouse such passionate emotions and reverberations in the new generation.

The established criticism of the time rejected the art produced by those grouped around the 'Eighties Group' as being 'restless and hasty', which actually summed up the features of the explosive reality of the modern industrial city for the first time in Dutch literature.

And it is in this context, that painters and writers from the *Nieuwe Gids* circles also regularly published their anti-academic opinions on art in dailies and weeklies such as *De Amsterdammer* and where George Breitner began a breathtaking photo-journalistic description of the Amsterdam cityscape in 1889.

This was a series of thousands of shots in which it appears not a single sign of the contemporary city can be perceived. The prominent attention given to historical buildings would seem to belong to the general tendency towards 'museofication' and 'monumentalization' that, according to Remieg Aerts, typified Dutch culture in the last two decades of the nineteenth century.[19] Young Dutch architects of the eighties who no longer based their study only on books but also stepped outside with their sketchpads can also link these photographs with the discovery of the picturesque cityscape. According to Auke van der Woud: 'Beauty in the history of art and architecture is a question of rules and regulations, but in nature at large it is something that strikes the eye and the inner self'.[20] But, in the case of Breitner, just as with the other renowned amateur photographer Emile Zola, the photograph acquired the status of a rare instrument of a new aesthetic positivism. Nevertheless, it must be noted that Breitner, who made extensive notation of the demolition process in the old city right up to his death, actually showed little interest in the new construction that rose in its place or in modern technology. In contrast to the work of French Impressionists such as Manet, Monet, Caillebotte or Seurat, no train, bridge or railway bridge appears in Breitner's work.

However, a closer examination of Breitner's photographs indicates a much more subtle relation to the modernization of Amsterdam. Other than those of Charles Marville of Paris or of Thomas Annan of Glasgow, Breitner's photographs are not official records: they are not sponsored and are not part of the urban reform of Amsterdam as an architectural project.[21] Nevertheless, they are strongly related to the projects of Marville and Annan in more than one respect. The repetitive character of the shots and the multiplication of images of historic Amsterdam demand comparison with the modern Amsterdam that literally stood on the point of breaking through the old. As journalistic reporting, they capture the city in anticipation of its modernization as it were. Moreover, where the urban modernity is lacking in terms of a *composition* or *anecdote.,* it is displayed in technological terms in practically every photograph.

During his expeditions, Breitner did not make use of a camera and tripod, but instead used hand-held cameras, including one for twelve glass plates, the so-called 'fall-plate' camera, and a 10 x 10 camera.[22] With these, he viewed the city as a pedestrian sees life at street level: the camera did not select, but bumped into passers-by, carriages and walls. In a striking correspondence with settings that had also been put to the test by French Impressionists such as Manet and Degas, Breitner assembled personages in *close up* in the cityscape which led to rather static scenes being suddenly altered to become dynamic moments in time, as in the overpowering photograph of *Horse and wagon along the canal.*

Breitner's way of working also recalls Flaubert's cinematographic approach: sometimes he photographs certain themes rapidly in succession, sometimes he circles around the object, capturing it from a number of angles, searching for the moment at which the representation and the emotion flawlessly overlap one another.

What all these photographs have in common is not so much the pictorial construction of the city as a classical economy of forms, but rather as a medium similar to the sensitive plate that not only registers the slightest action, accumulations or movement, but also makes it visible by means of inflection and deformation. And that is exactly the essence of the so-called picturesque cityscape that so attracted Breitner. Its charm is not transmitted by a central perspective and it also has no nature-based or rational foundation. The essence of the picturesque cityscape tends rather to be fundamentally cubist and electic, and originates, just as in the novel, from the development of themes and conflicts, from shedding light upon contradictory realities and programs. In short, it is a cityscape that in no way resembles the fictional and romanticised city representations of an earlier generation of painters or photographers. In contrast, it has everything to do with the transformation of traffic and urban hygiene, with the spatial settings of trade and distribution, with the arrival of a new urban culture of trade and consumption which formed the economic reason for the planning and construction of a new shopping street straight through the seventeenth-century canal ring: the Raadhuisstraat.

Eclecticism as method

The history of building and architecture of the Raadhuisstraat illustrates how much eclecticism was connected to the expanding commercial building market and the modern consumer society, not only as an aesthetic category but also as a method of design.

In any case, this is one of the themes that constantly recur in architectural reviews on variation and eclecticism by César Daly and Léonce Reynaud. In the eighteen-sixties, they wrote for specialist journals such as the *Revue générale de l´architecture et des travaux publics* (1840-1887), journals that were known in the Netherlands but which only played a demonstrable role only decades later in the debate on architecture. These texts by Daly and Reynaud, and also those by Sitte in a certain respect, embraced a method rather than a theory of design: first get to know the city by means of observation and then, in the light of the insight obtained, adapt and modernize it.

A noteworthy factor in their historical analyses is *scepticism:* the intellectual distrust of all those who think they can control the city and the regulations underpinning it. Thus wrote Reynaud halfway through the sixties: 'the street plan of a city is more the work of time than of an architect... The city originates from numerous intellectual endeavors, and testifies to the most divergent longings and dictates which nevertheless come together in harmony. And this is in conformity with a law that has its source and motivation in local circumstances, in the political constellation, in the course of history, and in the customs of the population. It is the assignment of aesthetics to trace these laws, but that is an illusion because there are so inconceivably many facts involved that no architect can claim to have them all at his disposal'. With respect to creating an urban plan, yet another approach satisfies this sceptical and eclectic appreciation of the complex processes of urban development. According to Reynaud, an architect who is asked to draw up a plan for a city would certainly search for a basic idea, a *leitmotif* that can lend form to his plan and a future to the city. But should what guide him? After all, experience teaches that if, for convenience, he turns to geometry, it is certain that a regular form will be produced, regular in nature and with no other ingredients than absolutely straight roads. His imagination will remain cluttered with trivial thoughts that limit his view of what is actually an exceptionally delicate and refined matter. Ultimately, this will produce only tedium and monotony where fresh observation of the visible reality would have resulted in openness and variety.[23]

Reynaud's antagonism towards architectural academicism, towards the hegemony of design theory, towards the idea of geometry being superior to sensory perception (on the site), is complementary to Daly's demand upon architects that they should not commit themselves to one single style. In his *Consé*quences intellectuels de l´exclusivisme of 1863, he wrote: 'The totality of symbols, signs and representations that emotions convey and which connect people intellectually: all these registrations collectively make up a language. Seen this way, architecture also forms a language. The more languages we know, and the better we know them, the greater the chance that we will discover the worthwhile, gain insights, and can arm ourselves against deviations and prejudices, against the fanaticism of peoples at war, against historic schools which demand sole rights, against aesthetic doctrines that march behind the flag of exclusiveness for one historic style'. The path of eclecticism, 'the wisdom of society in motion' runs via the past, which, like humus, doubles the fertility of today. The demand must be made on the architect, as a master of all styles and initiated in their moral and physical aspects , to reproduce the past in individual independence, to elaborate it in his own style, and to unify his personal knowledge of both antique forms and modern programs.[24]

Such an appeal for a liberal eclectic architecture and urban construction, one which is free of values in an ideological sense, cannot be regarded as other than a decisive stage in a strategy of modernization in which architecture and urban construction are purified, made contemporary, suitable for giving form to all impulses of the individual, the market and history. It is also for this reason that in the Netherlands too architects who wanted a "style" constantly attacked eclecticism, a regulated architecture that was an instrument of a civilized ideal or of a political or religious ideology. Due to its lack of rules and dogmas and its orientation towards the everyday issues of the commission, eclecticism was readily classified with the work of moonlighters, servants of commerce, and the 'unqualified' without artistic knowledge, principles or discipline.[25] These are negative judgments with an unprecedented historical resonance which led to the fact that, until recently, urban construction projects such as the Via Diagonale in Turin, Kingsway-Aldwych in London and the Raadhuisstraat in Amsterdam received no place in the culture-historical imagery of the nineteenth-century city. They have had to bow to the political charisma of, for example, the *Wiener Ringstrasse* or the Paris transformed by Haussmann, compared with which they were regarded as no more than the 'vernacular' version.

'Tolerant' urban development

In terms of both architectonic and urban form, the Raadhuisstraat today is the intended and especially the unintended result of a manner of city construction, which was determined to a large degree by incidents, conflicts and coincidences. This brought about a modern cityscape that is not necessarily harmonious; it is more *tolerant,* having arisen under the direction of technological demands, patterns of consumption, and the effects of city tourism. It

is an urban order that profits from absence of a strong binding concept, and which is the unstable result of the mutual engagement of divergent cultures of the many participants involved in the project. In fact, this is one of the major themes in the theories held by Daly and Reynaud, among others, concerning urban architecture, a theme which set the tone for the professional discussion about the large-scale reconstructions which were implemented in numerous European and American inner cities in the twilight of Haussmann's career. It is not so much Haussmann's Paris itself that has been a model for all these interventions, it is more the way in which the new Paris was received and analyzed, not only in contemporary painting, novels or photography, but especially in the rising literature on city planning whose sources, up to now, have been sought to much in Germany. Accordingly, in the texts of Reynaud and Daly, familiar concepts such as *centre, radials* and *circulation* no longer refer to abstract, geometrical figures but seem, in a functional way, to satisfy technological conditions and the concrete requirements of the citizens.

Of course they retain their formal significance but this is gradually eased into the background as a result of consistently precise perception and analysis of the increasing mechanization of urban life and of the shift in city manners.

In that respect, the title and contents of the book by Gustave Kahn, *L'esthétique de la rue,* which was published in 1901, were more than emblematic. The book includes chapters on: *la rue morte: Pompeï; la rue immobile; la rue qui marche; les figurants de la rue; les foires; les affiches et la lumière* and, lastly, *les lignes de la facade.*

Finally, the street also appears in specialist literature as a vital and dynamic theatre, the place *par excellence* for circulation and trade, the location of passages, hotel, shops, studios, cafés and restaurants. In no single period in the history of the city have so many practical variants of the street been thought up as in the second half of the nineteenth century, in which the distinction was made between alleyways, arcades, rows, lanes, terraces, places, backroads, viali, boulevards, rings, avenues, corsi and promenades. It is an incredibly rich toponomic typology which indicates the diverging length and characteristics of the street and also gives expression to increasing constructional and functional refinement: to roofing in iron and glass, the enclosure by shrubs and trees, the asphalting of the road surface, the passage of the tram and/or pedestrians, elaboration with pavements and street furnishings; in short, it gave expression to the central position of the street in the socio-cultural life of cities.

And the extraordinary rich articulation of the street has also evoked an exceptional and, until recently, little recognized form *of planning.* In almost all the early manuals, the street, with its social, narrative, formal and technological structure, is presented as a privileged place for urban design. This form of planning was meant to link the street as a (traffic-) technological artefact to the laws of a largely private economy. It afforded not only a means of control over the laws of expropriation, traffic technology and real estate, but also a means of aesthetic *conversion* of these into attractive, picture-postcard streetscapes. The new planning was planning from the *bottom up* which one could probably best characterize as photographic or, even better, as planning at *eye level,* due to the emphasis on an asymmetrical cityscape that, just as in some of Breitner's photographs, makes one conscious of the omnipresence of the observer, the *flâneur.*

It was planning as the seductive presentation of movement, luxury and abundance, which, in the absence of direct governmental mediation, is embedded in a subtle way in local history by the visual integration of, preferably, threatened urban monuments.

The extent to which the Raadhuisstraat in Amsterdam – just like the Via Diagonale in Turin, Kingsway/Aldwych in London and many other city breakthroughs in numerous other European and American cities – was engendered at the intersection of local cultural traditions with international professional planning discussions will be evident from the analysis of two of its most striking aspects: the unexpected *curved* route *(la via in curved)* of the street between the Herengracht and the Keizersgracht, which is very unusual in the context of Amsterdam, and the architectonic emphasis on this in the form of a shopping gallery with open *arcades* towards the public street.

La rue qui marche

The construction of the Raadhuisstraat was part of an integrated traffic circulation plan that was to facilitate the switch of Amsterdam from a waterway into a city based on land traffic. The infrastructure that had been ideal for the sixteenth and seventeenth centuries, in which all heavy traffic was directed through the canals and to which land traffic was subordinate, suddenly had to give way to a system that favoured bulk transport over land.[26]

Vital components of the 1873 traffic plan comprised the construction of several radial roads aimed at improving the accessibility of the heart of the new city: the Dam Square. As a consequence, the ringed structure of the inner-city canals had to be breached at a few crucial points. In addition, the plan contained elements for street improvements, particularly in the 'luxury neighborhoods', by means of asphalting, raised pavements and the lowering of old arched bridges for the benefit of trams. The 1873 traffic plan also brought to light a number of bottlenecks, including the unsatisfactory access to the inner city from the western districts.

The Dam Square developed to become the hub of trade, banking and large shopping facilities. In an almost symbiotic relationship, many dailies and weeklies set up premises in the area between the station and the Dam Square and the Dutch version of Fleet Street arose on the *Nieuwezijds Voorburgwal.*

The urban planning conceptualization of the future Raadhuisstraat was influenced by this urban development in its immediate vicinity, and of course by, on the one hand, the accompanying enlargement of scale in building production which foresaw an increasing demand for higher and bigger buildings, and, on the other, the impending growth of commercial and private traffic. Public transport thus developed into a technological network making conspicuous the new spatial, economic and social patterns of the city. It is not surprizing that, halfway through the eighties, the commercial sector came up with numerous initiatives in which scale enlargement in the building industry, new traffic concepts and the acceleration of economic expansion were engaged with one another. As a vital link in a new regional traffic and public transport system, the Raadhuisstraat was assigned the character of a busy city boulevard, hemmed on both sides by large-scale, monumental buildings. It was in conjunction with such plans that, in 1883, the then little-known architect H.P. Berlage published his *Amsterdam en Venetie. Schets in verband met de tegenwoordige veranderingen van Amsterdam* (Amsterdam and Venice. Sketch in relation to the current alterations to Amsterdam), not without some commercial self-interest. Although inspired by the literature of both Busken Huet and Harvard, who had previously created the literary picture of Amsterdam as an unspoilt, picturesque city, Berlage opted for a different, large-scale cityscape from the point of view of modern traffic technology and building practice. His choice was for the architectural reform of Amsterdam by means of a government-controlled, monumental architecture in the footsteps of modern Paris.[27]

It is exactly in relation to these and many other variants of a monumental boulevard designed between 1873 and 1890 that the alignment plan for the Raadhuisstraat, drawn up by the Municipal Department of Public Works in 1890, acquires a special significance. That plan did not have the pretension of directing the future building and is in fact no more than an administrative guideline for compulsory purchase. The greatest difference with all architectonic planning was formed by the proposed *streamlining* of the route in the form of a supple curve which not only had traffic-technological significance but also *mediates* in an architectonic sense and in a visual way between the historical, picturesque town and the modern city.

The choice for a curved line brought an end to all architectonic illusions of a coherent, monumental cityscape. Aesthetic objections to this were parried by the city fathers by referring to the situation abroad: 'Not only in this city but also in many foreign towns has testimony been provided that streets laid in a curved itinerary are extremely gracious and do not sin against the demands of the regulations governing the appearance of public construction.' Due both to its orientation and curved profile, the Raadhuisstraat is a phenomenon in the Amsterdam street plan that is as equally *recalcitrant* as the diagonal in the orthogonal grid of Turin. Their arrival heralded the definitive schism with the metaphysical order and self-evidence of the existing urban pattern. At the same time they represent new aesthetic principles for the modern city. These are no longer derived from simple and straightforward geometrical forms, but are attuned to the concrete demands of modern city life, to a complexity that is much larger than that of geometry. The diagonal and the curve were regarded in an almost empirical way as being natural and organic because they cope much better than straight-lined streets with local circumstances, with rugged terrain, with incidents concerning expropriation, and also meet the requirements of visibility of all kinds of attractions in the fields of shopping, the hotel and catering industry, and communication. In that respect, the curve had a genteel tradition, beginning with John Nash's Regent Street in London (1814), which was an anti-academic expression of ingenuity, which supplied a solution to technological problems for which existing practices had no answer. The technological and commercial preference for curved streets can be discovered throughout the entire nineteenth century, not only in numerous London *Improvements,* from Queen Victoria Street to Kingsway in 1896, but also elsewhere in Great Britain, as in the *Birmingham Improvement Scheme* launched by Chamberlain in 1875, and in comparable schemes in Edinburgh and Glasgow, and also further afield in Europe, including Amsterdam.

At the same time, the curved street is primarily the physical representation of a new, aesthetic positivism: that of pure visibility. The curve does not suggest or even restore a closed or uniform street facade; on the contrary, due to the alternation of viewpoints and the great variety of visual effects, perspective is annihilated as a symbolic form, and pedestrians, coaches, trams and horses – in short, everything that moves – are included in a noisy spectacle: the panorama of *la rue qui marche.*

In the case of the Raadhuisstraat, examination of ground distribution also shows that the municipal council at no time whatsoever tried to effect any form of homogeneous or uniform construction. On the contrary, parcellation and assignment (not in hereditary tenure) was completely open to new trends in real estate and retail trade. In the free play of economic forces, of speculation and the jacking up ground prices, of demolition, new construction, marketing and exploitation of shops and offices, governmental and munici-

pal authorities were both significantly involved. Sales took place on a parcellation basis, with the exception of a large block that was prominently situated on the curve between the Herengracht and the Keizersgracht that was purchased by a contractors' association for the construction of a complex for shops, houses and offices, in the form of a half-open arcade. The eventual appearance of this splendid arcade on the Raadhuisstraat had for Amsterdam a significance at least equal to that of the opening of the first large stores around the Dam Square. It reinforced, in a pragmatic sense, the character of the new traffic artery as a 'showcase', as an exotic background for a new culture of consumption, with all sorts of technology in the fields of advertising and presentation.

Due to its scale, symmetrical articulation and style, the complex designed by the architectural firm Van Gendt & Co. is a genuine metropolitan building.[28] But its compositional effect is completely neutralized by the hollow space, the *vide* that the building actually is, where all the ingredients of the urban situation: mechanized traffic, city cacophony, shopping, sun and rain, advertising, kiosks and cafés are molded together as in a single building encompassing the urban panorama. The shopping arcade, with its open arcades, has been subjected in an obdurate manner to the liveliness of the street and the forces that range there. These are not only bundled in the arcades, but also manipulated in the most surprising way, just as in the novels of Victor Hugo, Flaubert or Zola, or in the photographs of Stieglitz or Breitner.

This also applies to a large extent to the two historical monuments in Amsterdam: the Palace on the Dam Square and the Westerkerk (West Church). Having been definitively pulled out of their isolation by breaching and filling in, the streamlined arcades of the shopping street placed them in a picturesque fashion, in other words, as a sequence of picture postcards, back in the cityscape. The calculated situation in relation to the Westerkerk and former Raadhuis (Town Hall), which were significant symbols of the glorious history of Amsterdam as a merchant town, made the Raadhuisstraat not a conservative but a modern form of urban construction. It ensured its success, as the result of a liberal economic form of urban planning that was not guided by geometrical forms but much more by varied situations rich in contrast, by the combination of an occasionally exuberant cityscape with languid canals, immured monuments and inert courtyards. These were the types of contrast that foreigners such as Henry Harvard, De Amicis and Henry James admired so much in Amsterdam and that they missed so much elsewhere, as in Venice. Contrast and variation, which are the most important ingredients of a picturesque cityscape and which Breitner so untiringly pursued in his photographs, had ultimately in the curve of the Raadhuisstraat become the subject of architecture and urban planning for the first time in a Dutch city.

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Notes

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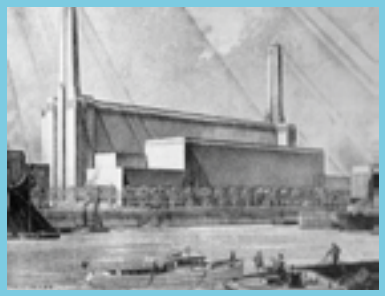

Transformation of the Bankside Power Station into the Tate Modern in London: Subversiveness of the Old

Tamara Rogić

This article[1] examines the formal ways in which architects have approached the conversion of an abandoned, unprotected and yet historically important industrial building. Almost a century later, the 'modernists' radical break with the past' is still a living myth among younger as well as older architects despite the number of convincingly argued theses that opposed this modernists' historical interpretation. The response to this myth was the conservationists' 'heritage crusade', initiated after WW II, resulting in today's musealisation of not only individual buildings but also entire historical city centres. During the last 50 years mythologists and crusaders created two sides with seemingly opposed interests regarding the ways of approaching the built environment. And yet, the positive reviews of the conversion design of London's Bankside Power Station into the Tate Gallery of Modern Art on behalf of both, the leading architectural as well as conservationists' critics, raise the question: is the war over? The Competition Brief for the conversion of the Bankside Power Station states the unprotected status of the building, inviting architects to break the building apart. After analysing the design proposals of the six architects short listed to the second round, presented below, the result was surprising: the old form of the building ruled in the sense that it directly influenced the form of the new, regardless of the conceptual rhetoric of individual architects. Therefore, a question remains opened to further research: have the crusaders won or was the war always more verbal than practical, as it is usually the case with myths?

Bankside – G.G. Scott's unprotected masterpiece

The Bankside Electric Power Station is G.G. Scott's masterpiece among industrial buildings and structures of his overall architectural opus.[2] However, Battersea Power Station as well as Waterloo Bridge are better known works by the same architect, even though Scott only finalised the existing design of the former, originally made by the firm *Halliday & Agate*[3], by remodelling the exterior. Stamp argued: 'Bankside is our swan song.[…] Sir Giles Gilbert Scott produced his final essay in power station design and […] was able to both arrange the masses and redefine his style in order to create a piece of architecture which was an original and pure monumental expression of industrial and electric power – which is also urbane and elegant. Battersea was a compromise, Rye House was never finished; Bankside is a complete masterpiece.'[4]

Bankside was first to cease generating electricity in 1980, and Battersea followed in 1983.[5] Battersea was given statutory protection in 1980 as a Grade II listed building, meaning that the building could not be destroyed while permission should have been given from the pertinent planning office for any alteration to it. In this same year, the SAVE Britain's Heritage group wrote a report on the possibilities of Bankside's conversion and The Twentieth Century Society reported on its architectural importance following the architectural evaluation of the building by Stamp.[6] Although it is not clear from the available archive material (nor it is relevant for this article) who lobbied for listing the Bankside and when, it is clear that in February 1993 the Department of National Heritage declared, 'that the power station does not merit listing, in spite of representations of English Heritage'[7]. Furthermore, the same department issued the immunity to listing the building until 1998.[8] Thus, Battersea, 'an architectural compromise', is a listed building while Bankside, 'an architectural masterpiece', is not. And yet, the unprotected Bankside was given a successful new life in 2000 by its conversion into the Tate Modern, while the conversion of protected Battersea has been an ongoing process for the last 30 years, the politics of which caused the decay of this protected building.[9]

The Tate's architectural vision of the Bankside[10]

The Tate Gallery bought the Bankside in 1993. Although the generating parts of the station were out of use for 13 years when it was purchased, the building's overall condition was good because the switching station was still in use (it closed down in 2005) and therefore requiring the maintenance of the entire building. In the summer of 1994, the Tate conducted an architectural competition for the conversion of Bankside. The winner was announced in February 1995. The works on the building began in 1997. The Tate Modern was opened in 2000, as one of the millennium projects of London, next to the Dome, Millennium Bridge and London Eye.

The Tate's preference for locating a museum of modern art in a converted industrial building rather than in a newly built one stemmed from the extensive inquiry of artists on the kind of spaces in which they like to work and exhibit their work. These spaces are described as naturally lit, preferably converted where 'architectural intervention was minimal'. Tate presented their preference for a conversion rather than a new building as a desire to create 'a new urban model' for the museum of modern art as an alternative to existing urban models, such as the MOMA in New York and the Centre Georges Pompidou in Paris. The Tate's public releases explained the choice of an old redundant industrial building for accommodating the gallery of modern art for two main reasons. First, the gallery would contribute to the regeneration of Southwark, the part of London that even taxi drivers refuse to go to in 1980.[11] Second, the project was a regeneration scheme of the architectural heritage.

Drafts of the Competition Brief were sent for consultation to several third parties, including Richard Burdett, Director of the Architectural Foundation in London who was also the chairman of the advisory panel of the competition. Among other things, he suggested that more explanations of the architectural potential of the building needed to be included. He wrote, 'explore the architectural potential of the building, *can knock floors and walls out* (emphasis added)'[12] Conversely, English Heritage, the other consulted party, was quite surprised that the building was not listed despite their suggestions to give it Grade II* status[13]. They wanted their view on the recognised architectural and historic interest of the building to be included in the Competition Brief. Moreover, English Heritage objected to "the open invitation to remove windows. Some modifications will certainly be necessary, but why not leave that for the competitors?"[14]

In the official version of the Competition Brief, the above-mentioned suggestions are translated as follows: 'To give it [Bankside] a public and civic sense it will need to be opened up, with large scale interventions within and through the structure […] This requires boldness, tempered by a respect for symmetry and power of Giles Scott's massive brickwork and windows.' Since the Tate saw the Bankside as 'an austere building, designed by the distinguished architect Sir Giles Gilbert Scott', they recommend that the 'following areas may be changed […] removal of the existing windows and brick mullions on the west, north and east [are allowed]'. Finally, they encourage the architects to have a 'clear vision, a bold strategy and the courage to add to Giles Scott's impressive statement.'

The benefit of the hidden paradox

The above-mentioned quotes would suggest that the Tate conveyed a clear message to the competing architects regarding their relationship to the old building. Their position could be summarised as follows: we give you an unprotected, old industrial building, still in good physical condition, which we want you to open up to civic life by destroying its austerity. In order to achieve this you can treat the existing building to your likings. However, it is exactly an opposite preference that led the Tate to conversion rather than a new building: the artists' preference for converted spaces with *minimal* architectural intervention.

The Competition Brief contained both messages. It was obvious that architects had to make up their minds as to the one to follow. And it is also obvious that such opposed facts do not convey a clear message to the competitors regarding the Tate's preferences on the treatment of the building, leaving the Tate much room to manoeuvre for deciding the winning scheme. Or should one say 'architectural firm' rather than 'scheme', since the Competition Brief clearly stated that the winner would not be chosen on the basis of the best scheme but rather on the basis of the best performing firm.[15]

In order to ensure selection based on this last criterion, all competitors needed to send in the portfolio of their projects relevant to the theme of the competition at the first stage of the competition. The members of the jury looked at the majority of the relevant projects of these six firms and visited their offices prior to making the final decision about the winner. Following the visits to OMA offices, the firm was evaluated as 'surrounded by chaos and exhaustion'.[16] The minutes from the jury meetings of the six finalists reveal that architectural considerations, such as circulations of different users and relationships with the surrounding neighbourhood area, played an equally important role in deciding on the winning project as the firms' operation and organisation.[17]

However, the relationship with the old did not feature in the minutes as one of the jury's prominent evaluation criterion. And yet, in the letter of consolation written to Koolhaas as a response to his previous complaint about jury results,[18] Sir Simon Hornby, chairman of the assessors panel explained that the jury finally chose Herzog & de Meuron's scheme 'because it took the old more into account and altered it less [than OMA's scheme].'[19] In the Tate's main publication on the transformation of the Bankside, Ryan wrote: 'Why did the Swiss team win? Paradoxically, because they proposed the least drastic changes to the Bankside. […] Londoners will still be able to recognise Giles Scott's power station.'[20] This means that for the public, the old played an important role, while, in fact, behind jury doors, other motives ruled.

Exclusion from listing assured uncontrolled changes to the Bankside building during the conversion process, even allowing for demolition in an extreme case. The Tate, left to the architects to decide in which way they wanted to approach the building, that is to say, which parts of the building they want to preserve and which to alter. However, it seems that the Tate did have a standpoint as regards the old: the only architectural consideration that really mattered to the Tate was the convincingly enough unaltered *appearance* of the old building.

The Tate played a double game at two crucial stages of the conversion process. They bought an empty building aware of its architectural importance, yet managed to secure its exclusion from listing for a period of time. At the same time they presented to the public their conversion option as caring for an abandoned, yet architecturally desirable space for conversion. Then, they offered an unprotected building to the architects and in doing so, a free hand in their choice of approach to the conversion. Yet, the project that altered the appearance of the old the least was chosen. In their game, the old benefited the most: it was given a new life through a new use in a short period of time without major alterations. Sir G.G. Scott's masterpiece was saved by an intervention, which only lightly touched the old building. Or at least that is what the Tate wants us to see.

The Tate's successful effort to exclude the Bankside from listing bypassed the conservationists' guide through the process of conversion and made architects the sole interpreters of the given architectural condition. The Tate created a situation in which it was possible to compare works and standpoints to the old of the better-known architects of today without the influence of conservationists. When analysing the competition entries of the six finalists of the Bankside conversion, the following issues will be addressed: how did the architects treat the old conceptually? In which way did they translate their conceptual positions into reality of the intervention? Which architectural elements of the old building were respected through the conversion and are still recognisable in the new design? First, the Bankside is described in terms of Sir Scott's design intentions, the building's relationship to the city and its overall architectural characteristics.

The architecture of the Bankside Power Station

The Bankside Power Station was designed by Sir Giles Gilbert Scott in 1947 and was built in two stages. By 1953 the western half of the building and the chimney were put into use, while the second half of the building was officially opened in 1963.[21] It is located on the south bank of the river Thames, opposite to St. Paul's Cathedral, which became the main reference point for Scott's design of the Bankside. On the one hand, he wanted to show how a power station could be just as a fine building as a church.[22] On the other hand, the cathedral influenced the main design decision on the Bankside simply by its spatial proximity. Seen from the south bank of the Thames, the composition of St. Paul's building masses and the position of the building entrance in relation to the surrounding cityscape imply a symmetrically organised building, facing the river. The transept, containing the side entrances, breaks up St. Paul's longitudinality by its position in almost exactly the middle of the longitudinal mass. A dome marks the crossing of the naval part and the transept. In order to match up to St. Paul's, Scott reduced the number of verticals of the new power station from the initially designed two to one (Picture 1), then he freed up the chimney by placing it in the middle of the elevation parallel to the river (Picture 2). The power station's 'bell tower' chimney became the dome's counterpart on the other side of the river (Picture 3). The symmetrical division of the Bankside was further emphasised by setting back the middle part of the building as a separate cube-like mass in front of which the chimney stands, while the left and right parts stretch from it like side wings. With the three decisions mentioned above, Scott managed to equalize the view from the north bank to the south: both sides of the river have a big, symmetrically organised building, facing each other, conversing with each other primarily with the position of their main vertical mass.

Just like in the case of St. Paul's, the Bankside does not have symmetrically organised spaces inside. Instead, it is divided into three main longitudinal spaces, each originally housing a separate part of the electricity transformation process: boiler house, turbine hall and switch house. The space of the first two creates one building mass, while that of the third, a separate mass lower and shorter than the former. Every space was filled with the appropriate machinery. The turbine hall was filled with machines only at basement level and ground floor (Picture 4), while the whole height of the boiler house was filled with machines. (Picture 5) In order to allow the accessibility of all parts of the machines in the boiler house, a number of staircases and bridges were introduced, which stretched along the turbine hall as viewing galleries. While physical and visual connection existed between these two spaces, the switch house was treated as a separate space, divided from the other two by a wall.

The two parts of the bigger space had the same architectural characteristics: same size (length, width, height), same structural characteristics – steel frame supporting steel roof trusses, same kind of roof light positioned in the middle of the space (Picture 6). The only difference between the two spaces was in the number and position of windows. These differences simply spring from the position of the spaces in the building: while the centrally positioned turbine hall had only one group of five vertically positioned strip windows on each end, the boiler house, one of the laterally positioned spaces, was naturally lit through additional six groups of the same window composition placed on the longitudinal, north elevation. The switch house is a space with only one horizontal strip of windows at the very top of this building mass.[23]

Steel frame structure supports the outside walls made in exposed red brick from both sides. Over time this red brick acquired patina, which turned the building's exterior dark brown. Plasticity and the appearance of the mass on all elevations are achieved by layering of bold planes of brickwork.

Designed in the late 1940s, the Bankside is a living witness to Scott's 'middle line' approach to design, a line between "extreme diehard traditionalist [and] extreme modernist", defined in his own words as "the best ideas of modernism been grafted upon the best traditions of the past"[24]. In the manner of what Stamp evaluates as masterly used Expressionism, Scott succeeded in his intention of showing that an industrial building can also be architecturally fine building.

Three approaches to the interpretation of the old

'Perhaps the aesthetic model to adopt is that of the Persian carpet, clearly patched and mended over time, in which areas of formal perfection can coexist comfortably with the threadbare. In this way, part of the building could be brought up to the most modern technological levels of finish and polish, while others would be left exactly as they are.'[25]
David Chipperfield

'Any intervention outside will look ridiculous in terms of scale[26] *… industrial buildings [have] raw, sincere, unpretentious spaces which cannot easily be intimidated by art.'*[27]
Renzo Piano

'Interventions in existing contexts leave two choices: infiltration or imposition. To succeed, the first needs subtlety, the second, power. In this case, our interventions in the wider urban context can only be suggestive; 'power' is limited to the interior of an existing building. This dualism has inspired the project.'[28]
OMA

'Our strategy was to accept the physical power of Bankside's massive, mountain-like brick building and to even enhance it rather than breaking it up or trying to diminish it.[29] *[They discovered] step-by-step where we should hold back and where we should be pushier, more aggressive. That had nothing to do with more or less respect for the existing building but only what will be the final result. We treated the Scott building like part of our own structure, not something which is worse or different.'*[30]
Herzog & de Meuron

'The Basic Concept: Architectural Fusion [encompasses the following intentions]: reactivating a sense of historicity and at the same time transforming the site into a stage for new creative energy. We intend to create a space for the future that is formed by the clash between elements from different ages, each expressing itself without losing its own singularity.[31] *Hence the intense collision between different spaces produced by the three materials [brick, glass and concrete] becomes a space for the 21st century made of 20th century materials.'*[32]
Tadao Ando

'The acceptance of the intrinsic economic value of the Bankside Power Station means that this proposal will maintain as much as possible of the existing fabric without altering its iconographic impact on the Thames embankment.'[33]
Jose Rafael Moneo

Coexistence, imposition, fusion: three terms, three conceptually different approaches for intervening with the old can be extrapolated from the statements of the six architects short listed to the second stage of the competition. Chipperfield defines *coexistence* as 'a comfortable existence of formal perfection created by clearly distinguishable old and new threadbare'. OMA defines *imposition* as 'opposite of infiltration achieved through power and subtlety, respectively'. Ando defines architectural *fusion* as 'a result of material and spatial collision' whereas for Herzog & de Meuron, fusion is the 'result of the enhancement of the existing (old)'. Moneo wants to leave unchanged the symbolic power of the existing and therefore opts for fusion. Piano does not define his approach conceptually, but according to the above-mentioned definitions, his intervention could be primarily defined as the coexistence of old and new in terms of materiality.

The main difference between these definitions lies in their level of abstraction: whereas the definitions of OMA and H&dM are exclusively conceptual, those of the others, next to the level of abstraction also refer to spatial compositions and building materiality, that in this sense, makes them concretely architectural. Regardless of their level of abstraction, each of these concepts was used by the architects as a tool to explain the proposed, concrete architectural intervention of the old. This means that each intervention is analysed here in terms of the translation of these concepts into architecture, that is, into materials and spatial formal compositions. For the spatial economy of this article, only one project representing each approach is presented in the main text while the others are given in the footnotes.

Coexistence

Chipperfield[34] (Picture 7) recognised two material elements, i.e. the brick skin and the steel cage structure, and the following spatial elements of the old, i.e. the composition of windows, the volume of the chimney and the raw space of Bankside as the referential elements for his intervention. All elements except the "raw space" need to stay present as well as dominant in the intervention. According to Chipperfield, the "sheer power of [Bankside's] raw space", the most powerful but also the most superficial aesthetic remnant of the original industrial character of the old, should be erased.

Guided by the modernists' moralising concept of 'honesty' in both formal and material terms, for the lack of which Chipperfield criticised G.G. Scott's design approach, he proposed an intervention labelled as "building within a building". The brick wall shows its own 'skin' character by not going all the way to the ground, but stopping just below the lower edge of the windows. In this way, the steel structure that carries it is revealed at ground level. Honesty is at work here: the apparently massive brick walls do not carry the building, as Scott's building treatment suggests. It is the steel structure that does the work.

The internal, 'giant single space' is filled with 'a sequence of interlocking abstract spaces', or simply boxes, which would contain gallery suites. "We imagine this sequence manipulating a series of open and closed spaces, spaces of contemplation, spaces of movement and spaces of orientation, sitting within but opening out into the 'public space' of the interior." The sequence of boxes, proposed to be made in concrete, stacked in the once giant *single* space, break its continuity and overpowering raw, industrial character. The only other volume of power of the old building, the chimney, proposed to be maintained and rebuilt in glass for Stage 1 of the competition, is destroyed in Stage 2: 'Its role as a marker must be challenged by the potential given to the building by its removal.' In the middle of the building, once marked by the chimney, Chipperfield found a place where, finally, the composition of interlocking volumes of the building interior can also be perceived from the building's exterior. An honest image of the spatial composition of the building's internal space can be appreciated from the outside as well.

Chipperfield achieves the coexistence of old and new in terms of materials by consecutively applying his concept of honesty: he places old materials next to new ones rather than interweaving them and reveals the structural and environmental nature of each one of them. Moreover, formal honesty is achieved by rendering visible the spatial logic of the interior to the building exterior.

However, it is exactly the spatial composition of the old and new spaces *inside* the building that contradicts Chipperfield's interpretation of coexistence: by filling the whole 'giant single space' with the sequence of smaller abstract spaces, the single space is broken into smaller ones, so that old and new spaces do not coexist anymore; the old can no longer be recognised and therefore is transformed.

Chipperfield's metaphor of the Persian carpet contains a reference not only to its materiality, but also to its form and aesthetical consideration. He strives towards the 'formal perfection' of the Persian carpet, yet he does not refer to or define the rules that lead to it. Formally, Persian carpets are composed of individual shapes, which are part of a bigger formal unit and thus of the composition of the carpet as a whole. Therefore, a compositional logic of the whole guides the arrangements of the individual pieces. In his intervention Chipperfield introduced the individual spaces arranged by a spatial logic of which he speaks only in terms of their uses and the amount of public space. Let us consider them spatially. The newly introduced spatial logic of the building interior communicates with the building exterior through one element: a big, cube-like volume positioned behind the place where the chimney once stood. Scott arranged his Bankside volumes by following the rules of symmetry: two equally long wings connected in the middle with a set back cube in front of which the chimney stands, positioned exactly in the middle of the longitudinal building side. Chipperfield removed Scott's chimney and middle cube where he placed his cube. As opposed to Scott's cube, his is extruded from the building mass. And yet, by its dimensions and position Chipperfield's intervention follows the logic of symmetrical volumetric organisation introduced by Scott. Aesthetically, the 'formal perfection' of the carpet rules is achieved by the coexistence of the new and old volumes.[35]

Imposition

The absence of any kind of analysis of the existing building is seen by OMA as a 'power' approach.[36] (Picture 9) The building is seen and treated as a 'brick box'[37] of tripartite spatial division of the interior. The old spatial division is rendered visible by retaining the cage steel structure of the turbine hall in its entirety. The part of the old frame that supported the elevation was retained in part on the north side, only in the middle part of the building. It is exactly on that same middle part that the old elevation is replaced by a glass 'window' as high as the entire building and only slightly wider than Scott's middle building part. The rest of the elevation was left untouched in terms of materials and composition. Old materials, the 'brick box' and steel cage remained present in the new and kept their formal presence in total, while the structural and environmental remained only partially.

In spatial and formal terms, the intervention is composed of three 'blocks' inserted to the building and one added to it in front of the eastern part of the north elevation. Three blocks consist of six levels of which four are placed in the area of the former boiler house, while the topmost two stretch across the area of the former turbine hall, over approximately one third of the building's length. No single level stretches along the entire length of the building. Just like once the boiler house was filled with operating boxes, now it is filled with galleries. The turbine hall remains hollow so that it can visually 'serve' all the new galleries, while its hollowness in the past assured the free movement of the crane and the serving of machines. The only new architectural element introduced to the former turbine hall, which OMA calls 'the path of the crane,'[38] is the large staircase that covers the entire width of the turbine hall, connected to the entrance areas placed on the north side of the building. This means that the placement of the new volumes repeats the spatial division as well as the organisation of the old on the inside. From the outside, the symmetry of Scott's volumes was not broken by just the placement of the window, but also by the position of the sixth level above the west wing of the building. The volume of the chimney remained present, yet the chimney itself is stripped of its brick skin revealing a structural skeleton and emphasising the new asymmetrical composition of the building.

Inside, it is the spatial organisation of the old building and the total character, its spatiality and materiality, ('the path of the crane') which stayed the same. The new is executed in different materials than the old. However, structurally, new and old are interwoven rather than being separate structural units. From the outside, it is the old window composition that meshed with the new while the old volumetric symmetry was replaced with an asymmetrical volumetric composition. Koolhaas stated that the new imposes itself by means of 'power' upon the old in the building interior. Retaining the old spatial organisation as well as the overall architectural character of the existing internal space, the new is more infiltrated than imposed upon the old. It is only on the outside that the new overpowers the old by breaking the original symmetrical with asymmetrical volumetric composition.

Fusion

Herzog & de Meuron[39] (Picture 10) recognised the physical power of the Bankside. Their way to fusion of old and new is led by the recognition of the old elements where this power is accumulated and then used to the advantage of the new. According to H&dM, this physical power comes from the building's overall concept, that is, in 'the symmetry of Scott's building'[40] expressed in the play of the building's masses. As well, they found it in the building's internal spatial tripartite division[41] and in the individual elements, such as in the mass of the chimney,[42] the space of the turbine hall[43] and dimensions and architectural characteristics of the windows on the north elevation: 'Those cathedral windows are the best kinds of windows to have. You get light from the side which goes from the floor to the ceiling […] Any other opening to the façade would have been stupid.'[44] These are the aspects of the old upon which H&dM built the new.

By placing the galleries of different spatial qualities in each longitudinal space, H&dM's intervention respects the tripartite spatial division of the existing building.[45] The only physical connection between the two lateral spaces is the viewing/entrance platform that crosses the turbine hall at the ground floor level. These three spaces are further visually connected by two long and two short translucent glass boxes which, apparently hanging from the main, old steel structure, overlook the turbine hall from the corridors of the galleries positioned in the boiler house. These boxes are vertically and horizontally aligned, creating a static, symmetrical composition of masses placed on the old structural grid. Both lateral spaces, the boiler house and switch house (under construction at the moment of writing), are vertically subdivided into number of floors. It is only the turbine hall that remained empty in the full building's height.

Their intervention of the interior extrudes outside in a form of a 'light beam', a building volume made in glass that at the roof level stretches along the whole length of the building. H&dM primarily saw the beam as a horizontal counterpoint to the verticality of the chimney, which they freed from its surrounding extension done by Scott's office, re-establishing its originally conceived formal and mass independence. The light beam is also the way of breaking with Scott's mass symmetry, as the beam does not run through the entire length of the building but rather stops a few meters before the east elevation. At ground level, the symmetry of the north elevation is broken up by the introduction of a glass box in the brick body of north-west corner of the building. The glass box counterbalance of the east side of the building is positioned below and along the full width of one set of the original cathedral-like windows.

Transparent and translucent glass boxes that appear both inside and outside the building are trademarks of the intervention. The rest of the intervention, that is, the gallery spaces are executed in yet another 'new' material – concrete. This means that all newly introduced architectural elements are made in a material clearly distinguishable from the old ones. Structurally, new and old work together and as such, depend on each other. Consequently, in material terms, this intervention can be labelled a symbiotic fusion.

Spatially, the old and new are not fused; instead, the new is again submitted to the old. As regards the outside form, an interesting strategy at work. If one wants to use somebody else's power for one's own purpose, then it can be done by accentuating the other's power as H&dM did in the building interior, or by confronting it, like OMA did with a clear asymmetrical approach to the volume composition. With the asymmetrical position of the light beam, H&dM also intended to apply the confrontation strategy. As opposed to OMA's shouting asymmetry, H&dM's movement is so small that it can be visible from only one pedestrian approach to the building: the bridge that connects Tate Modern with St. Paul's.[46]

Decorative rhetoric of the new: subversiveness of the aesthetics of the old

Three conceptual approaches – coexistence, imposition, fusion – have more in common

once translated into materials and spatial compositions than they have when presented in words. In terms of materiality, all six interventions proposed to be executed in the combination of materials different from the old ones. If one accepts the above-mentioned definition of coexistence as parallel existence of the old and new, then all interventions do adopt this approach in material terms.

However, the interventions differ in the level of rendering visible the coexistence of old and new materials. With their interventions called 'building within the building' Chipperfield and Piano render fully transparent the way in which old and new materials coexist by detaching one from the other in terms of materials' structural and environmental behaviour. Chipperfield was also more consistent in following this treatment of materials than Piano was. In the remaining four interventions of OMA, Ando, H&dM and Moneo, nothing is clear-cut in terms of structural and environmental behaviour of the old and new materials; they do not have divided roles. Instead, they play the role of building tectonics together. If fusion means the total impossibility of recognising fused parts, then intentionally blurring the coexistence of old and new materials by fusing them according to their structural and environmental behaviour brings us to an intervention of the old called *tectonic fusion*. Chipperfield's and Piano's approach can consequently be called *tectonic coexistence*. Therefore, in material terms, two approaches of the intervention to the old can be defined: *tectonic coexistence and tectonic fusion* of old and new.

The interventions can further be categorised in terms of their treatment of the old and new *spatial-formal composition of the interior and exterior*. In five interventions the existing, tripartite spatial division of the building's interior was retained whereas only one intervention proposed transformation. In terms of the spatial composition of the old and new, the coexistence of the two is again at work. In fact, we can go a step further and analyse the following situation. The nave of the boiler house was always stacked with machines, meaning that this was the space originally subdivided into smaller units. The space of the former turbine hall was originally empty in its entire height. Not only did the five schemes retain the tripartite division of the interior, but they also retained the spatial composition of each individual nave: subdivided boiler house and entrance-like turbine hall. Their spatial compositions can even be recognised in their names: subdivided house and entrance-like hall. If we accept this interpretation of the spatial composition of the building interior, we could call the approach of the five interventions *spatial compositional conservation,* and the sixth one, *spatial compositional transformation* of the *building interior.*

All the interventions follow the same approach to the treatment of the building's elevation composition: they all retain the original window composition. However, they do differ in the treatment of the building's volume composition. Whereas OMA and H&dM propose breaking Scott's symmetrical composition, the other four not only respect it but even allowed their responses to be led by it, and so once more one can talk of *spatial compositional transformation* and *conservation,* respectively, of the *building exterior*.

The six short-listed interventions can be divided in two groups according to their way of treating the old and new in terms of structural and environmental behaviour of the materials. They can also be divided into two according to their treatment of the spatial organisation of the old and new inside and outside the building. Chipperfield's scheme follows tectonic coexistence and spatial compositional conservation of the building's exterior, whereas spatial compositional transformation of the building's interior. Piano goes for tectonic coexistence and spatial compositional conservation of the building's interior and exterior. OMA prefers tectonic fusion, spatial compositional conservation of the building's interior and the spatial compositional transformation of building's exterior. Surprisingly enough, considering their opposite conceptual stands, H&dM follows the same combination of the above-mentioned approaches. Ando also goes for tectonic fusion, but then he adopts the spatial compositional conservation of building's both interior and exterior. Moneo proposes exactly the same approach as Ando.

This variety of identified approach combinations shows that it is not possible to extrapolate a most common combination and thus the most common approach. However, one statistical result does come up: tectonic fusion outnumbered coexistence, spatial compositional conservation of the exterior outnumbered the transformation, which became extremely visible in the treatment of the building's interior. Although the architects were invited to compete with, diminish, break and even destroy the old, it seems that the old prevailed. Subversively, because it was not protected, the old turned the architects' rhetoric on intervention into pure decoration.

Notes

1. This article presents a summary of the case study of the PhD thesis in progress entitled *Architectural Interventions into Historical Industrial Buildings: An Investigation into Architectural Ethics* by the present author. Historical and theoretical questions presented in the introduction to this article are elaborated in the thesis while here they serve as contextual framework for the article.
2. G. Stamp, 'Giles Gilbert Scott and Bankside Power Station', in: R. Moore and R. Ryan (ed.), *Building Tate Modern.* London (Tate Gallery Publishing) 2000, pp.176-190; The Tate Archive file numbered TG 12/7/2/2, 'Introduction and Architectural Notes by G. Stamp' and 'K. Powell, 'The Twentieth Century Society Report on the Architectural Value of the Bankside'
3. Stamp (note 2), p.180.
4. TG 12/7/2/2, ' Introduction and Architectural Notes by G. Stamp'
5. R. Moore and R. Ryan (ed.), *Building Tate Modern.*London (Tate Gallery Publishing) 2000, p.191; http://en.wikipedia.org/wiki/Battersea_Power_Station
6. See respectively: TG 12/1/1/7, 'Save Britain's Heritage report'; TG 12/7/2/2, 'The Twentieth Century Society Report'
7. R. Moore and R. Ryan (note 2 p.191. In fact, English Heritage proposed it for listing as a Grade II* 'which would have placed it within the 6% of buildings of special architectural and historic interest', see TG 12/4/2/3, 'English Heritage's letter of complain to the Tate'.
8. TG 12/4/2/6, 'Tate Gallery of Modern Art: Background Information'.
9. For a detailed *Battersea conversion process* see http://www.thepowerstation.co.uk/sales%5Fand%5Fleasing and http://en.wikipedia.org/wiki/Battersea_Power_Station.
10. Unless noted otherwise all information and quotations in this section refer to TG 12/4/2/6, 'Competition Brief', pp. 2,9,15 and 30.
11. TG 12/1/1/7, 'SAVE's report'
12.TG 12/4/2/3
13. Ibid. 'letter from English Heritage to Stuart Lipton'
14. See note 13.
15. Ibid., p.4
16. TG 12/4/6/1, 'Minutes from Assessors' meeting on 14&15 November 1994, 12th presentation – Rem Koolhaas – Office for Metropolitan Architecture', p.9
17. Ibid., 'Minutes from Assessors' meeting on 14&15 November 1994'
18. TG 12/4/7/4/1, 'Correspondence'. It is interesting to note that this archive file does not contain Koolhaas's letter but only the jury's letters to Koolhaas. It remains unclear exactly which points of the jury process Koolhaas complained about.
19. Ibid., 'letter to Koolhaas ref. no. TGMA 8/2/1995'
20. R. Ryan, 'Transformation', in: R. Moore and R. Ryan (note 2), p.19
21. These chronological facts are taken from A. Hardwicke 'Chronology', in: R. Moore and R. Ryan (ed.) 2000, p.191
22. G. Stamp, 'Giles Gilbert Scott and Bankside Power Station', in: R. Moore and R. Ryan (note 2), p.182
23. The section of this part of the building could not be located.
24. G. Stamp, 'Giles Gilbert Scott and Bankside Power Station', in: R. Moore and R. Ryan (note 2), p.179-180; Scott's traditional, 19th century, eclectic approach to architectural design is evident in his opus of Neo-Gothic cathedrals built around Britain (Liverpool cathedral is among the most known of his church works).
25. TG 12/4/6/2, 'Chipperfield – Submission for Stage 1', p.1a
26. TG 12/4/7/5/1, 'Renzo Piano Workshop Wednesday 30 November 1994 13:00-17:00'
27. TG 12/4/7/9, 'Minutes of Assessors' Meeting on 16 and 17 January 1995 Stage 2 Presentations, 2nd session – Renzo Piano Workshop', p.29
28. TG 12/4/6/5, 'OMA – Submission for Stage 1: Urbanism, point 1'
29. Herzog & de Meuron, 'Tate Modern', in: *Quaderns* (July 2001), no. 230 (62-71), p.65
30. J. Herzog, N. Serota and R. Moore, 'Conversation', in: R. Moore and R. Ryan (ed.) 2000, p.45
31. TG 12/4/6/8, 'T. Ando – Submission for Stage 1', p.1
32. Ibid., p.2
33. TG 12/4/6/14, 'J.R. Moneo – Submission for Stage 1'
34. Chipperfield's design proposal is analysed on the basis of material submitted in TG 12/4/6/2, 'Submission for Stage 1' and TG 12/4/7/3/2, 'Submission for Stage 2'. First four quotations are taken from Stage 1 pp.2b,2a,3b,4b while the last one on this page is from Stage 2 p.3
35. Another scheme of coexistence is that of Piano (Picture 8). (Design proposal is analysed on the basis of material submitted in TG 12/4/6/6, 'R. Piano – Submission for Stage 1') Piano positioned all the gallery spaces in the boiler house, while the turbine hall remained empty. He proposed a new roof structure, the technical performance of which would allow replacement of the old columns with new roof beams. However, the drawings show that Piano intended to keep the old steel columns, deprived of their structural role. The gallery spaces would not be naturally lit in order to prevent glare. For that reason Piano moved the gallery block away from the elevation, creating an effect of a building inside the building.

The elements of the old that influenced Piano's intervention are the scale and volumetric composition of the old building and industrial character of the interior defined by the materials, such as the steel columns and brick walls, and the tripartite spatial division of the old. They remained present in his scheme.

Piano clearly distinguishes the new from the old by a very simple act of structurally

detaching them from each other. The external brick walls are detached from the newly designed block inside and turned into an envelope. Steel columns are reduced to mere decoration, obviously kept only to fulfil the 'industrial image' of the building. If, for example, all elements retained were to be removed, the new would still continue to function properly – but not the other way around. Old is a setting, maintained as an image. The old and new materials simply coexist parallel to each other.

In spatial and formal terms, old and new coexist inside the building as well. By positioning all the gallery spaces in the boiler house Piano retained the original tripartite division of space and the originally filled space is again filled, while the empty turbine hall remained empty. There is no need for Piano to interfere with the original building shape from the outside. Scott's volume composition guided by symmetry remained the ruling force. From the outside, the old overpowers the new rather than coexists with it.

36. OMA's design proposal is analysed on the basis of material submitted in TG 12/4/6/5, 'OMA – Submission for Stage 1: Site, Building, Display'
37. Ibid., 'OMA – Submission for Stage 1: Building – point 2 and Display – point 3'
38. Ibid., 'OMA – Submission for Stage 1: Building – point 2'
39. When not indicated otherwise, Herzog & de Meuron's design proposal is analysed on the basis of material submitted in TG 12/4/6/13 'H&dM – Submission for Stage 1'
40. J. Herzog, N. Serota and R. Moore, 'Conversation', in: R. Moore and R. Ryan (note 2 p.41.)
41. Herzog & de Meuron, 'Tate Modern', in: Quaderns, (July 2001), no. 230, (62-71), p.65
42. J. Herzog, N. Serota and R. Moore, 'Conversation', in: R. Moore and R. Ryan (note 2, p. 52.)
43. Ibid., p.45.
44. Ibid., p.41, 47.
45. TG 12/4/6/14, 'J.R. Moneo – Submission for Stage 1: Drawings'.
46. T. Ando (Picture 11) (Design proposal is analysed on the basis of material submitted in TG 12/4/6/8, 'T. Ando – Submission for Stage 1') refers to the old building as 'this sleeping mass of brick" and 'old brick structure.' He is not interested in any other kind of understanding of the old building beyond its materiality. In fact, he sees the whole building as 'a 'wall' that separates the Southwark district from the river and the 'city' to the north.' Ando sees the clash between ages materialised in the representative power of the materials: brick 'symbolises the human act of production and the epoch of materiality' and consequently he keeps the brick skin. Ando does not recognise the steel structural cage as a carrier of any meaning for the past or present. However, the steel columns are retained on the south wall of the turbine hall. Glass expresses abstractness and 'symbolises the post-material epoch dominated by image' and therefore the part of his intervention visible from the outside is executed in this material. And finally, 'concrete which mediates the two by its neutrality' is placed inside the building where the two are supposedly fused by it.

The spatial concept of his intervention and formal embodiment seem to stem from these materiality orientated considerations. In order to connect the Southwark and the City, he proposes breaking of 'the wall', i.e. the building, by protruding it at two points with two glazed shafts which house a 'geometric exhibition space'. The clash between the brick and glass – the past and present – would then be present at the north and south elevations. Yet, Ando strives for a fusion rather than collision, which he achieves in the building's interior by introducing a third horizontal volume which stretches behind the north elevation, along its entire length. This is a concrete volume, which structurally supports the newly introduced glass shafts as well as the old brick skin. Each element, all horizontal shafts and the old brick case, kept their singularity visually, yet structurally they are fused, the stability of each one depending on the other two.

By repeating in size and placement of the concrete block the dimensions and position of the boiler house, Ando kept the original spatial division of the building's interior. In this intervention the former turbine hall is also left unfilled, but only crossed at two points. From the outside not only did Ando retain Scott's symmetrical volumetric composition, but in fact led his own intervention be governed by it, which can be seen in the symmetrical position of the glass shafts in relation to the north elevation. Like with the interventions of Piano and OMA, the old spatial logic of the interior guided the spatial logic of the new, once more the old is imposed onto the new. Form the outside, just like in Chipperfield's intervention, symmetry ruled the volumetric composition. While it can be said that architectural fusion is achieved in material terms because of the structural interdependence of all materials and parts of the building, the interpretation is not so straight forward in spatial and formal terms. In terms of spatial and compositional logic of the old building's interior and exterior, it is the old logic that governs while the new simply follows that logic. The material fusion described above can be called a symbiotic fusion, whereas the formal is then rather a submissive fusion. It seems that the ''sleeping mass of brick" is not sleeping after all; it rules subversively.

J.R. Moneo (Picture12) (Design proposal is analysed on the basis of material submitted in TG 12/4/6/14, 'J.R. Moneo – Submission for Stage 1') recognises the iconographic impact of the old building on the cityscape of London and consequently proposes alterations to the building exterior, new roof light, which have minimal visual impact on the building. The rhythm of the windows is so imposing that no alteration is needed for the elevations. However, the shape of his newly opened entrance to the building on the river side witnesses a different approach: three spread out fan boxes emerging from inside the building at the chimney's base have a presence of their own and are visually competing with the old. In the building interior, Moneo is again minimal in terms of changes introduced to the spatial organisation of the old. The retains the tripartite division of the old, places the galleries in the boiler house, while the main entrance/ticket area to the retained hollow of the turbine hall.

Moneo addresses the issues of materiality very briefly. Most likely a new structure would need to be introduced as well as a roof while the building interior would not be lavish and only have washed walls.

The iconographic status of the old expressed in the overall building's volume composition and the elevation composition and spatial division of internal spaces as well as its usage character are elements of the old that direct Moneo's design. The new structure would keep the old spatial division of the interior and support the old elevation. Old and new would therefore fuse by working together.

However, the form of the new entrance is the only element that contradicts this fusion at work. Its irregular shape and the very regular, orthogonal form of the old belong to different geometries. Moneo does not try to fuse but rather leaves them to coexist next to each other.

[Polemen]

Team X revisited

Henk Engel

The tremendous historical need of our unsatisfied modern culture, the assembling around one of countless other cultures, the consuming desire for knowledge – what does all this point to, if not the loss of myth, the loss of the mythical home, the mythical maternal womb? Let us ask ourselves whether the feverish and uncanny excitement of this culture is anything but the greedy seizing and snatching at food of a hungry man – and who would care to contribute anything to a culture that cannot be satisfied no matter how much it devours, and at whose contact the most vigorous and wholesome nourishment is changed into 'history and criticism'.
Friedrich Nietzsche, *The Birth of Tragedy*, § 23, 1872.[1]

At the end of 2005, the long-awaited overview of the work of Team X was presented in a large exhibition at the NAi, accompanied by a book of the same size. Ever since the publication of the special issue of *OASE* (No. 51) on the work of Peter and Allison Smithson in 1999, Max Risselada and Dirk van den Heuvel spent most of their energy making this event possible. When closing the exhibition they organised a conference under the caption *Keeping the language of modern architecture alive*, which may give a clue to the somewhat naïve intentions behind the whole enterprise.[2] The first question one has to ask is of course which language we are talking about here: the language of *Plan Pampus* by Van den Broek & Bakema (1964), the language of the reconstruction plan for the *Nieuwmarkt* by Van Eyck and Bosch (1970), or do we have to look in other directions beyond Team X? Postmodernism is on the edge of this representation of Team 10.

In this regard, some of the book's interviews with participants of Team X, dating from the early 1990s, are interesting. Most revealing is the interview with Giancarlo De Carlo. Even though in his opinion Postmodernism had already reached a dead end, his evaluation is full of hard feelings. As he sees it, Postmodernism took various forms and had two extremes, one fascist in spirit, the other, vaguely anarchistic. The vaguely anarchistic side of it existed in the United States (not in Italy) and had the merit of forcing architects to think about eclecticism, about the reasons of this urge to mix or combine non-homogeneous languages.[3] For De Carlo, the debate on Postmodernism was not something that just started after the publication of Charles Jencks' *The language of Post-Modern Architecture* in 1977. For him, the whole issue dated back 20 years earlier, when the reacquisition of classical forms in the designs of some students prompted him to write a strong critique.[4] A continuous war against formalism, not only against this revolt of the 'columnists' as he called it, but against formalism in modern architecture – the international style – in the first place, was the main target of De Carlos' participation in *Casabella Continuità* under the direction of Ernesto Rogers.[5]

Since I am more interested in architecture than in the family business of Team X, this question about the language of modern architecture seems very relevant to me, also with regard to the Dutch contribution to what Peter Smithson at Otterlo (1959) called 'the need for a genuine invention of a new formal vocabulary – a new architecture'.[6] At the time, this claim seemed all the more pressing since two years earlier the English art historian John Summerson had made clear, that in fact what was missing in modern architecture was precisely an 'architectural language', or as Walter Gropius called it an optical 'key'… as an objective common denominator of design; something which would provide the impersonal basis as a prerequisite for general understanding, which could serve as the controlling agent within the creative act.[7] Rereading many writings of modern architecture, Summerson came to the conclusion that from a preoccupation with social factors only the programme was commonly accepted as the source of unity in design. When it came to the question of form, modern architectural theory failed to provide a common answer and by the end of the 1950s, it was not possible to distil a unified picture from architectural practice, as Hitchcock and Johnson had done 25 years earlier in *The International Style*.[8]

In the 1950s, the functionalist doctrine of modern architecture had veritably spread all over the world, but as a style, it had lost its consistency. All kinds of regionalism developed. Within this growing pluriformity, however, James Stirling in 'Regionalism and Modern Architecture' noticed a marked difference between the two sides of the Atlantic Ocean: The Old World exploiting and contorting traditional ways and means, and the New World inventing techniques and developing the appropriate expression of the modern attitude. Even the older masters of modern architecture in Europe had lost their unconditional fate in technological progress. The rustic city hall in Saynätsolo of Alvar Aalto (1949-52) and Maison Jaoul of Le Corbusier (1952-56) were distinct manifestations of this change of mind.[9]

Despite all the differences both *Plan Pampus* and *the Nieuwmarkt design* are part of the regionalist trend: the first by integrating in the landscaped (completely artificial) environment, the characteristics of the Dutch water land; the second by accepting the urban fabric and traditional building typology of Dutch cities as the starting point of the design. However, *Plan Pampus* points to the possible synthesis of regionalism and technological progress Stirling hoped for, while in the *Nieuwmarkt design* such a synthesis is hard to find. Within the scope of Dutch architecture and planning it was important that these plans were not designed simultaneously, but as alternative visions on the same topic, albeit with a time lag of about five years. *Plan Pampus* and *the Nieuwmarkt design* show in a most dramatic way how radically architectural thinking about the city has changed during the second half of the 1960s.

After the period of reconstruction in which all the attention was focused on urban extensions, at the end of the 1960s, the historic Dutch city centres were confronted with the massive effects of urban development. In Amsterdam, after much debate about the establishment of the Bank of the Netherlands on the Frederiksplein and the new City Hall on the Waterlooplein, the construction of the subway caused a true insurrection of the people. The well-oiled planning machine was brought to a halt and only Van Eyck and Bosch suggested a way out by trading in the futuristic enthusiasm of *Plan Pampus* for a nostalgic city reconstruction. From that moment on the slumbering ideological contradictions in the community of Team X architects stood out in full daylight.

After 1970 the work of Van den Broek & Bakema was no longer significant for Dutch urban design. However, Aldo van Eyck grew out to the speech-making architect of another approach to architecture and city planning, but only after his work had gone through a remarkable change. After the first signal in his design for the City Hall in Deventer (1966), the design for the Nieuwmarkt with the manifesto 'Stadskern als donor' marked a definite shift.[10] By 1970 Dutch modern architecture had landed in a disturbing situation. While traditionalist architects of the Delft School were increasingly absorbing the form language of modern architecture, Van Eyck, one of the exponents of modern architecture, turned his preferences to the form language of traditional Dutch cities. The ambiguities of this situation recall the discussion at the Otterlo congress in 1959, dealing with the language of modern architecture and tradition, or maybe more to the point: utopia and social realism.

CIAM in the museum

From the first studies of *Pendrecht* (1947-1951) to that of *Alexanderpolder* (1953-1956) and *Kennemerland* (1957-1959), the Dutch contributions to CIAM (the International Congress of Modern Architecture) after WW II had most consistently identified with the development of the *Charter of Habitat* and had in their methods, according to Giedeon and Benevolo, successfully integrated the inheritance of Neoplasticism, New Objectivity and Corbusian Urbanism.[11] By the mid 1960s, however, Benevolo did see that the co-operation between Dutch planning authorities and the 'modern' fraction of Dutch architects was stagnant: 'precisely because it was modernised so long ago, Dutch planning is no longer in a position to easily absorb the latest developments in architectural research. Dutch public authorities have always made eager use of avant-garde architects, but (…) for at least 15 years the most progressive proposals have been made by private studios and have only partially influenced the practice of public administrations.'

Benevolo especially referred to the office of Van den Broek & Bakema. The difficult relationship of modern architecture with the Dutch planning authorities became very obvious with the regional plan for Kennemerland. In 1957, the office of Van den Broek & Bakema had the opportunity to bring the research on the articulation of housing districts to a practical test on a much larger scale. As a contribution to the preparation of the regional plan for the north of Kennemerland by the provincial board, the 12 municipalities in this region invited Van den Broek & Bakema to submit a study of the future development of their settlements in terms of building forms and architectonic appearance.

The proposals of Van den Broek & Bakema are very significant, especially with regard to the systematic study of housing typology in relation to new building technologies and the use of the dimension of the landscape in urban design. But in the spring of 1959 at the final presentation, the representative of the provincial planning board ridiculed the study of the architects as a mere try-out.[12] This was a blow to the architects. Claiming their part in making the regional plan and giving full support to their architects, the municipalities were overruled and pushed to the sideline. These circumstances give some clue as to the missionary task Bakema set himself in the following years with the scheme for *Tel Aviv* (1962), *Plan Pampus* (1964) and even on Dutch television with the series *Van Stoel tot Stad* (winter 1962-1963).[13]

Bakema's fighting spirit could also be seen during the eleventh and last CIAM congress he hosted at Otterlo in September 1959. This meeting not only led to the abolition of CIAM, but also to a break with the Italian delegation, with the exception of Giancarlo De Carlo. As a reaction to CIAM's discontinuation, Ernesto Rogers wrote an editorial for the October issue of *Casabella Continuità* (No. 232, 1959): *I CIAM al Museo*, 'The title implies that museums are architectonic organisms for the conservation of documents of historic experience, not things which are dead forever, but things which, in spite of having fallen out of

the active cycle of life, are still worth exhibiting and studying.'

During the presentation of the participants' work at the congress of the Otterlo museum, Peter Smithson and Jaap Bakema – in the name of modernity – launched a frontal attack on historical dialogue and feelings for regional traditions, both apparent in the Italian submissions. There was no sympathy at all for the intentions fundamental to the Italian work.[14] Rogers spoke of a complete breakdown in communication. In fact, the discussion was an extension of the polemic started by Reyner Banham about Neoliberty, which he considered a reprehensible Italian revisionism of modern architecture.[15] For Rogers, after what happened in Otterlo, CIAM was history. CIAM was over. But Rogers still held the view that the history of CIAM remained valuable. Therefore, CIAM deserved a place in a museum. As a museum piece the work of CIAM is available to all, ignoring those claiming its inheritance.

Rogers' *Casabella* magazine had historical reflection playing a key role since 1953. In 1959, it formed an alliance with a study group of young architects, digging up the historical roots of modern architecture. The young Italians were aware of the different interpretations of the history of modern architecture. Considering the history of modern architecture, extension of the usage of that notion was no longer the point. The Italian approach led to a dismantling of what used to be considered a homogenous movement.[16] Showing the different trends within modern architecture, the young Italians inevitably faced a choice.

The gathering of young Italian architects around Rogers that would become known as *Tendenza* in the 1970s, found its basic principles in the modernist current that can be considered a continuation of the classical tradition. Like Loos, they reject the idea that architecture should, or even could design original forms. Forms have a life of their own (Henri Focillon, 'La vie des formes', 1934), are the sediment, the formalisation of architectural experience. Giving a definite direction to Rogers' programme of 'Utopia della realtà' (*Casabella* No. 259, 1962), Tendenza put both the study of the city and the problems of architectural design in a new perspective. Meanwhile, a differentiation made a remarkable parallel in the discussions of Team X during the first years of the 1960s and the debate in Italy in those years, recorded in the pages of Casabella.

The shift 1962: from architect urbanist to urban architect

To shed some light on the parallel development of Team X and Tendenza in the early 1960s, it is important to realise that at first, Team X elaborated on the *Charter of Habitat*, the theme of CIAM IX (Aix-en-Provence, 1953). In most of the work of Team X members, the theme of habitat took on the form of 'mega-structure', with which they tried to overcome the limitations of regionalism. Golden Lane (1952) was a paradigmatic design for early mega-structure and more so was the entry of the Smithsons for the competition Hauptstadt Berlin (1957). By 1962 the position of the Smithsons had changed radically.

At the Team X meeting in 1962 at Royaumont, Aldo van Eyck presented *Noah's Ark* of Piet Blom, and Bakema, the design for the University of Bochum. For the Dutch architects, Van Eyck in particular, Royaumont was a traumatic event.[17] The discussion on Blom's design concentrated on the topic of *the house as a small city and the city as a big house*, a concept first proposed by Van Eyck in his notes on the design of the Children's Home (Amsterdam 1955-1960).[18] In the end, Peter Smithson came to a crushing conclusion: 'I think it's the exact opposite of what we are looking for. We're looking for systems that allow things to develop as they need to develop, without compromising one another. Here, you have a system which takes the concept that the city is a big house absolutely literally. But the city is not a big house, it is a completely false analogy, a false image.'[20]

In Van Eyck's biography, Francis Strauven highlighted the criticism on Noah's Ark. In fact, not only the design of Piet Blom came under the verdict of Peter Smithson, but Bakema's design for University of Bochum as well, and on the same grounds. Both plans were dismissed because of their geometric megalomania: 'I think there is a danger in this city-the-one-big-building-thing – it's taken too literally when it is in fact a metaphor and it doesn't have to be everything-connected-to-everything, all geometries tied to all other geometries. This is system building that results in a system that is one-big-thing. I have the strongest feeling that dislocation of the elements is a better technique on the whole for making a collective rather than sticking them together. We agree generally on the business of systems of linkages, but they needn't be physical.'[22]

Peter Smithson's criticism of the Dutch contributions at Royaumont can only be fully understood against the background of the shift that had just taken place in the work of the Smithsons. They themselves presented at Royaumont, *Greenways and Landcastles* (1962), *Citizens' Cambridge* (1962) and had just finished the entry for the *Mehringplatz* competition (Berlin 1962). At Otterlo they presented *Hauptstadt Berlin* (1957) and *London Roads Studies* (1959). The new urban studies showed at Royaumont were the upbeat for another concept of architecture in relation to urbanism. *Mehringplatz* is a definite break with the mega-structure conception of *Haupstadt Berlin.* As the Smithsons stated in AD, August 1964: 'The Mehringplatz design can be read as a response to the fashion for "casbahism" – the piling up of functions for financial reasons. (…) The sense of increased "elbow room" – for opening up so that buildings, roads and services cab each develop freely according to their own laws and have the possibility of change without compromising the development as a whole – is central to our proposal.'[24]

The very same year in 1962 at the Architectural Faculty of Rome, Manfredo Tafuri and Carlo Aymonino organised a conference entitled *Città Territorio*.[25] Also in that year, the competition for the Centro direzionale in Torino was held. The radical entry to this competition by the team of Aldo Rossi, *Locomotiva 2*, in many ways, came to the same conclusions as the *Mehringplatz* design. Against the wave of mega-structures, the Rossi team recommended the erection of a single, huge building. Mega-structures not only absorb all urban functions but also absorb all possible future developments in advance. They exclude the individual project as a single act founded in the here and now. Locomotiva 2 was a response to 'a culture of architecture and urban design, caught and almost obsessed by the general urban design, having lost its actual understanding of singular interventions (…): a project of this type is understood as an architectural project on a metropolitan scale, as an architecture radically referring to the city. The design for the business centre once again directed attention to the factors permanent to the city's growth.'[27]

A point of reference for the young Italian architects, however, was not so much the Charter of Habitat (CIAM IX, 1953) as The heart (core) of the city, the theme of CIAM VIII (Hoddesdon 1951, with Rogers in the organising committee), and the debate on a new monumentality just after the war.[28] When re-reading 'Nuovi problemi', an article about these issues by Aldo Rossi in Casabella (1962), there is no doubt about this: 'We are referring to the new dimensions of the metropolitan area, to the existence of the city region as an objective fact which must be taken into account if one is not to work abstractly on a city which is more or less traditional, more or less capable of redevelopment, but in any case no longer definable within traditional, geographic, economic and physical limits.

The residential problem – which is more determined by the general solution adopted for the city – must be taken into consideration as it stands today: as a dynamic element doomed to a short life and a rapid consumption both from the economic and the technological and psychological points of view. The bond between man and his home, considered as a bond between man and his environment, is less and less true; but the awareness of the bond between man and the surrounding society must be continually strengthened.

For this reason, commercial centres, universities, cultural centres and public buildings will once again assume a formal importance: they will be the monuments of a vaster metropolitan territory cut across by huge network of public transports capable of increasing and multiplying the shifts, contacts, and participation of all men in the spirit of the new city. The architect now humiliated by speculation, will once again try his mettle on the great civil themes, and with the boldness of more and more advanced technology trace the progress of civilization.'[30]

Investigations in collective form

In spite of the lamentations of Van Eyck and his biographer on the Royaumont debate, it is clear as compared to the Mehringplatz design and the Citizens' Cambridge plan, the Dutch synthesis of modern architecture had in some way become too heavy a burden. Starting from housing, which happened to be the solid ground of CIAM research from its beginning, the study of district articulation had gradually led to the study of the city and of the surrounding countryside.[31]

The research of the Smithsons had developed more or less along the same lines. By 1962, however, Louis Kahn's study of Philadelphia (1951-53) and Scharoun's entry for Hauptstadt Berlin (1957) had seriously changed their view on urbanism and led to a re-evaluation of architectural interventions in the city. Attending the World Design Conference in Tokyo, in May 1960, might have provoked reconsideration of time as the most serious factor in planning. At the conference, *Metabolism* was launched. Kenzo Tanghe presented his *Tokyo Bay Plan*, and Fuhimiko Maki and Masato Othaka their design for the redevelopment of the Shinjuku area in the same city. These two plans exemplified what Maki was to define as two types of collective form: *Mega Form* (or *Mega-structure*) and *Group Form.*[32]

Arriving in 1962 at the conclusion that the significance of an architectonic intervention is in the well-defined limitations in time and location, the urban studies of the Smithsons came to an end. Their urban research is documented in Urban Structuring (1967), an extended version of *UPPERCASE 3* (1960). It is precisely in the additions to the publication of 1960 that one can trace the shift in their work that had been played out at Royaumont.[33] The interview with Peter Smithson in 1991 published in the Team X compendium provides a late confirmation of the conclusions he arrived at during the first half of the 1960s. In a commentary on the work of Indian architect Balkishna Doshi he states, 'Just to repeat a short story: the urbanism of our century started with Tony Garnier, who made a plan and drew everything, every street, every house, every intersection, every factory. Then in the Post-war period, Le Corbusier did the same for his schemes, St Dié, etc., every house was drawn. At the end of the Team X period, urbanism did not mean draw every house: it was about finding the generating forces. In a way you hardly had to draw anything. I recently went to a lecture by Doshi, and he is still making plans like Chandigarh, where every damn thing is drawn. I was appalled. Cities develop over years. Time is committed to these things; time causes things to unfold like in a real city.'[35]

For architects in the periphery of the

original Team X, the 1962 meeting paved the way for research in other directions. Among them Oswald Mathias Ungers stands out. In the 1960s, Ungers' research was somewhere in the middle of Team X and the young Italians. In 1960, Aldo Rossi in Casabella has already introduced his work.[36] Just before that, Ungers and Reinhard Gieselmann had published a manifesto *Zu einer neuen Architektur* ('Towards a new architecture') in which they protested against the levelling trend of functionalist architecture after the war: 'Architecture loses its expressiveness by the utilisation of technical functionalist methods. The final outcome is that residential blocks look like schools, schools like office buildings, and office buildings like factories.' The destruction of the typology and the character of buildings had to be counterbalanced by an architecture whose, 'creative mission is to make the task it undertakes visually comprehensible, to adjust it to the pre-existing elements, to accentuate and glorify the site. In short, architecture as a continuous discovery of the *genius loci* from which it draws its impulses.'[38] Three years later this mix of Alvar Aalto's *The Decadence of Public Building* (1953) and regionalism had been developed into a more analytical approach.[39]

In his notes of 1963 on the housing design *Neue Stadt* (Cologne 1961-64) in the Swiss magazine *Werk* (1963 No.7), Ungers reflected on the city as a work of art and the autonomy of the rules of composition. In the same issue of Werk a German version of Fuhimiko Maki was published, called *Towards group form*. In the first pamphlet on *Metabolism* (1960) Maki and Othaka presented the concept of group form as one of the metabolist forms of planning.[40] A year later, in a more extended version of the text from which the German translation originated, group form is presented not only in opposition to the concept of classical architectonic composition in urban master planning, but also as a critique on the static mega form – the big frame – of mega-structure. Group form is defined as an urban syntax: it is form, which evolves from a system of generative elements. It is not a collection of unrelated, separate buildings, but of buildings that have reason to be together.[41]

Some of the basic ideas of group form can be recognized in historical examples of city building like traditional villages and oriental bazaars instead of palace complexes that are characterized as compositional form. In the last and most elaborated version of the text, published in 1964, Maki gave descriptions of a traditional, linear Japanese village and Dutch canal towns, which clearly show that in the end, the concept of group form denotes what later on was to be labelled as 'urban fabric'.[42] At an earlier stage the concept of group form had a great impact on Aldo van Eyck and encouraged him to expand the concept of the configurative composition of the Children's Home to the urban concept he presented in 'Steps Towards a Configurative Discipline' (1962) and exemplified at Royaumont with Blom's Noah's Ark.[43]

Ungers' notes in *Werk* 1963 open with: 'The city is governed by the same formal laws as the individual houses that comprise it.' The dictum that in the debate on Blom's design Van Eyck defended as metaphor, in the hands of Ungers, becomes the starting point for a rigorous formal analysis: Correspondences between house and city can be demonstrated – independent of place and historical era – not only within domestic architecture but also in relation to the structural composition of larger buildings such as castles, palace complexes, churches, schools, etc. It should suffice to say that the structure of the city is determined by the sum of individual buildings and that the dwelling plan and the city plan are related, as they determine each other reciprocally.

The turn brought about by Ungers is far-reaching. For him, the house-city topic was not only important as an analogy from which to develop new urban forms, as was the case for Maki and Van Eyck. The most important was his conclusion that in history, on the basis of the reciprocal determination of the house and the city, different form structures have appeared and that in most of our cities, developed over time, the different form structures stand right next to each other. The cityscape is no longer seen as a homogenous unity, but as a composition of parts: Today we have to address the question of how the different form structures (…) can be brought together into a unified whole. This question cannot be answered by sociology, traffic planning or technology as they are just tools – only with the insights that can be gained from morphological research.[44]

A prerequisite for unifying different entities is a common denominator. In Ungers' approach, the different form structures are seen as variations on a more basic theme: the correlation of positive volumetric form and negative interstitial space. In the interplay between volumes and space, the complex's character is expressed, which arises from its ability to organise two realms – the inside and outside – for a specific purpose. Although the similarity with the themes set out by the Dutch Forum is obvious, Ungers' reference to the aesthetic theory of Herman Sörgel was very significant for the next venture into the intricate question of urban form.

The city of parts

Sörgel's Einführung in die Architektur-Ästhetik (1918) is in line with the German Kunstwissenschaft (Science of Art; Riegl, Smarsow, Wölfflin, Brinckmann, Behrendt, Frankl) that also informed the theory of early Neoplasticism; that is *De Stijl* before the hocus-pocus of the fourth dimension came in, with design from the inside out and the tesseract as the paradigm by which the envelope of the building was dissolved. In Sörgel's definition of the basic principal of architecture, outdoor spaces such as streets, squares, parks, courtyards and gardens, are just as important as indoor spaces. Ungers specifically refers to what Sörgel called the Janus face of architecture: the envelope as interface, determined by the concepts of inside and outside spaces as well.[45] This basic principle, which differentiates architecture from the other plastic arts (painting and sculpture), is documented most clearly by the different structures of urban form, which have been developed by different cultures at different time periods. It is on the same ground that the city can be seen as an architectonic collage. That is to say: not as a heap of rubbish, but, in the way Kurt Schwitters wanted his Merzbilder to be understood, as composition. In fact, already in the early 1920s it was Schwitters who came forward with the idea of transposing the technique of collage from painting to the architecture of the city.

In the German architectural debate of the early 1920s heavily charged with utopias, Schwitters' point of view was of an unprecedented realism. In Bruno Taut's magazine *Frühlicht*, he wrote: 'Of all the arts, architecture is by nature the most geared to Merz thinking. As it is well known, Merz means using the old that happens to be available as material for new works of art. For architecture, the recalcitrance of the materials used for building houses means nothing more than re-using old materials, over and over again, and including them in new designs. This way, extraordinarily rich and beautiful buildings have been created, since it is not the style of the old component that is normative for an architect, but the idea of the new "Gesamtkunstwerk". This is the way our cities, as an example, should be dealt with. By carefully demolishing the most disturbing parts, including houses both ugly and beautiful in a single comprehensive rhythm and distributing accents correctly it should be possible to transform the metropolis into an enormous work of Merz art.'[46]

What matters here is that there are some crucial differences between the operations of the painter and those of the architect. Schwitters made clear that the unity and coherence of his *Merz pictures* are the result of a process of reduction. In his collages, references made by the fragments of reality are pushed into the background and suspended. Within the boundaries of the picture plane, the material is reduced to pure visual data and made into a pictorial composition.[47] It is obvious that for architecture such a reduction would only make sense, when it is realised in architectonic terms, that is to say, when the physical reality of the city is reduced to the envelopes of the volumes (the interfaces between indoor and outdoor spaces), out of which the city is composed.

That brings us to a second difference between the painter and the architect. It is not the architect who makes a collage out of the city. Due to its development over time, the city as a collective work of art *is* a collage. The architect only adds one or more fragments. It is only by considering the city as an architectonic collage that the architect can understand the meaning of the additions he makes. There is no implication here that the architectonic interventions in themselves should be fragmented. Although Ungers' designs for the Student housing in Enschede (1962) and Grünzug Süd (1962-65) might suggest so, the final projects of his students at the Technical University of Berlin from 1963 onwards show the contrary. The main object of study was Grossformen in the city and the result a series of publications that give a unique documentation of Ungers' educational activities during the second half of the 1960s.[48] The underlying issue of these studies is the formal language that makes the urban context commensurable with new architectonic interventions. Ungers found this language in the aesthetic theory of Herman Sörgel.

At the end of the short introduction of the work of Ungers in *Casabella* (October 1960), Rossi spoke with admiration of 'the uncommon coherence and the continuous development, from one work to the other, of an original idea and concept of architecture. That was reason enough to follow the future development of this idea and this quest with great interest.[49] Rossi most probably did so in the following years. In the exhibition *Architettura razionale*, organized by Rossi for the XV Triennale di Milano in 1973, among the designs of students in the section of the schools of architecture there was work from only two universities outside Italy: the ETH Zürich where Rossi himself was teaching at the time and the Technical University of Berlin.[50] Between 1963 and 1973 an approach to architecture and the city had been developed, for which Rossi's book *L'architettura della città*, published in 1966, counts as a true manifest. As Rossi later wrote, the book was 'bang on target', but its reception was not free of misunderstandings.[51] In fact, the book was a result of three years work at Istituto Universitario di Architettura di Venezia (IUVA).

In 1963, a year after he had organised the conference *Città Territorio* at the Architectural Faculty in Rome, Carlo Aymonino got a professorship in Venice. With Aldo Rossi and Costantino Dardi, he started to reform the discipline of Caratteri distributivi degli edifici and set up research on the city of Padua. The main issue of both was to link two kinds of study, which until then were pursued only separately: *urban morphology* and *building typology*. 'Each of these disciplines studies an order of homogenous facts. However, building types, which have been realised, are the ones that physically make up the city.'[52] The courses of the first academic years are documented in three booklets: *Aspects and issues in building typology* (1963-1964), *The formation of the concept of building typology* (1964-1965) and *Relationship between Urban Morphology and Building Typology* (1965-1966). The study *La città di Padova* was only pub-

lished in 1970.[53]

The theoretical explorations in Venice went from building typology to urban morphology. This meant first of all that from the start, not only housing was at the core of the research, but public building as well. And second, that at the bottom line of urban analyses was not placed a most general understanding of architecture in terms of the young discipline of the German Kunstwissenschaft. Venetian research could elaborate on the 'typo-morphological' research elaborated by Saverio Muratori since the early 1950s. When, in 1960, Fuhimiko Maki introduced the concept of group form as an alternative for compositional form and mega-form, Muratori had already done detailed studies on the development of urban tissues in Venice and Rome.[54]

Rossi's *The Architecture of the City* is mainly a reworking and elaboration of his contributions to the courses in Venice.[55] Rossi saw the book as an outline of an urban theory: a theory, which understands the city as architecture.[56] At the time, the implications for architectural design were postponed. The Architecture of the City must be seen in the first place as a theoretical preparation for the research on the city of Padua, with the intention of making that study a test case for the development of *a science of the city*.[57]

A view from the graveyard

The Architecture of the City clearly shows that in most urban studies, the form of the city is generally considered the result of social, economic and political forces. And in fact, cities can be analysed in many ways, each within its own language, the scope of the discourse of the respective disciplines. In Rossi's view, however, only an architectural approach offers the possibility of penetrating into the unique phenomenon of cities as they are. Moreover, Rossi argues that for understanding the individuality and development of a city, housing – making up the bulk of the built-up area – is not the most important factor. *The architecture of the city* assigns the topography and the monuments as primary (most permanent) elements. From the point of view of historical research, it is obvious that the interaction between topography, monuments and residential areas is fundamental, not only for the very beginning of the formation of a city, but also for any further development.

The Architecture of the City does not intend to provide a generalising concept of the city. When Rossi speaks about 'the idea of the city as a synthesis of all its qualities', he refers to concrete cities: 'Athens, Rome, Constantinople and Paris are urban ideas.'[58] The idea of a city is as much a fact as its physical characteristics. Yet, there is an essential distinction between what might be called the 'lived-in city' and the 'city of stone'. If the city stands for a durable entity, then the term applies first of all to the physical qualities of the city, the city as artefact. The central question of *The Architecture of the City* is how the context of the idea of a city and the city as an artefact can be imagined.

The *Architecture of the City* has four sections. The first part discusses 'the problems of description and classification, that is, the questions of typology.' The second is about the structure of the elements that make up a city. The third part discusses the architecture of the city with regard to the *locus*, and therefore the history of the city. Finally, the fourth part touches briefly upon the principle problems of the urban dynamic and the problem of politics as an element of choice. It is important to note that in contrast with much of the later typo-morphological research Rossi does not dissociate himself from modern architecture. In his writings there is always much respect for the masters of modern architecture: Adolf Loos, Le Corbusier, Mies. In *The Architecture of the City* Rossi criticises modernism only to the extent that it invokes a naïve functionalism as the method of analysis and design of the city. Rossi's critique is epistemological in nature. Using that approach he rejects not only organic views in modern architecture, but also similar ideas in the urban investigations of geographers.

Only urban studies with a historiographical orientation know to escape from the breathless conception of *form follows function.* They show that the general rule is exactly the opposite and confirm the proposition which Nietzsche saw as the most important for historiography of any kind: 'The cause of the origin of a thing and its eventual utility, its actual employment and place in a system of purposes, lie worlds apart; whatever exists, having somehow come into being, is again and again reinterpreted to new ends, taken over, transformed, and redirected by some power superior to it (…) However well one has understood the utility of any physiological organ (or of a legal institution, a social custom, a political usage, a form in art or in a religious cult), this means nothing regarding its origin (…) the entire history of a "thing", an organ, a custom can in this way be a continuous sign chain of ever new interpretations an adaptations whose causes do not have to be related to one another but, on the contrary, in some cases succeed and alternate with one another in a purely chance fashion. The "evolution" of thing, a custom, an organ is therefore by no means its progress toward a goal (…) The form is fluid, but the "meaning" is even more so.'[60]

Morphological urban research shows this complex relationship between architectural forms and history. Architectural forms outlive the original reason for their construction. This is precisely what makes them open to changing functions and meanings. Moreover, a cityscape is not a formal unity; rather, a townscape displays breaks and contrasts, all of which have something to say about the city's use and history. In support of this view Rossi refers to Frits Schumacher.[61] In this context it is important to re-read what Schumacher had to say on the subject. In 1951 Schumacher wrote: 'In essence, today's "metropolis", indeed even today's large town, is no longer a construction, which can be reduced to a single basic principle. It is composed of individual districts, each with its own very different sociological characteristics. This differentiation can even be seen as a character trait. (…) It would be totally wrong to want to force them to conform to a single formal law. The dominant geometric spirit in the administrative district is utterly different from that in the business district, and is expressed differently again in the industrial district. Even in the different kinds of residential district we can easily recognise the characteristics, which determine the type, whether it be "medium-sized town", "small town", "garden city", indeed even "village".'[62]

By comparison with organic concepts of the city, Schumacher's observation is truly refreshing. At the same time, it is clear that Rossi goes a step further. What Schumacher saw as a characteristic of today's cities, Rossi designated as an integral component of the concept of the city. In Rossi's words, 'the city is not by nature a creation that can be reduced to a single basic idea. This is true both for the modern metropolis and for the concept of the city as the sum of many parts, of quarters and districts that are highly diverse and differentiated in their sociological and formal characteristics. In fact, this differentiation constitutes one of the typical characteristics of the city. To reduce these diverse aspects to one kind of explanation, and therefore to a formal law, is a mistake.'[64]

In Rossi's view the identity of a city is an expression of collective imagination and memory: 'One can say that the city itself is the collective memory of its people, and like memory it is associated with objects and places. The city is the *locus* of the collective memory. The relation between the *locus* and the citizenry then becomes the city's predominant image, both of architecture and of landscape, and as certain artefacts become part of its memory, new ones emerge. In this entirely positive sense, great ideas flow through the history of the city and give shape to it. (…) Ultimately, the proof that the city has primarily itself as an end emerges in the artefacts themselves, in the slow unfolding of a certain idea of the city, intentionally.'[66] Rossi took this as the starting point for urban analysis and design. For the structure of memory, however, things forgotten and neglected are at least as important as things remembered.

In the broad scope of the theoretical exploration of *The Architecture of the City*, concepts like the city in parts and the *locus* are viewed with deeper insight. Besides this, the most significant service to architecture of *The Architecture of the City*, and even more so of Giorgio Grassi's *The logical construction of architecture* (1967), has been, that they brought back to memory the central position of German architecture and city planning in the formation of modern architecture. After the trauma of WWII, the radical and many-voiced legacy of German architecture had fallen into oblivion. The *Siedlungen* of Ernst May in Frankfurt am Main and of Bruno Taut in Berlin, the work of Frits Schumacher in Hamburg and the theorising of Ludwig Hilberseimer, even the work of borderline figures like Alexander Klein and Heinrich Tessenow – all these works were given their due attention again.

This was done not out of historical curiosity, but rather because in these works Rossi and Grassi found the connection with the great manuals of Reinhard Baumeister, Camillo Sitte, Joseph Stüben and Rudolf Eberstadt, and through these founding fathers of Der Städtebau with the tradition of the architectural discipline. After WWII only two city models were left: *the Garden City* and *la Ville Radieuse*. These big models had completely overshadowed the profound German studies of European cities and the instruments for their transformation into the modern metropolis.[67]

Only after this rediscovering of the disciplinary roots of modern architecture in Germany Manfredo Tafuri, Marco de Michaelis, Francesco DalCo and especially Massimo Cacciari – in short, the Venetian school of historical criticism – began digging up the cultural, political and philosophical roots of modernism in Germany. By recognising not only the broad influence but also the value of Nietzsche's anti-dialectic philosophy, Cacciari gave Marxist criticism a radical turn and opened the way for tackling the function of avant-garde discourse and actions in capitalistic development.[68]

The *Architettura razionale* exhibition in 1973 ensured the international breakthrough of Aldo Rossi and Manfredo Tafuri as well. Mostly as a result of their participation in the American journal *Oppositions* under the direction of Peter Eisenmann, the dominant position of Team X was taken over by the two Italian projects – the Project of Tendenza and the Project of Historical Criticism. The relations between these two projects, however, are complex and remain obscure. In the field of Marxist cultural theory, the position of Tendenza seems more related to the aesthetic theory of Georg Lukács, which was turned over by historical criticism. There is a small aphorism by Nietzsche, which may be enlightening for what was at the centre of both projects, but worked out in two different directions. It reads: 'If man had never built houses for gods, architecture would still be in its infancy. Tasks self-imposed on the strength of false assumptions (e.g., soul separable from body) have given rise to the highest forms of culture. "Truths" lack the power to motivate in this way.'[70]

For architects this truly modern wisdom is probably quite difficult to absorb in its full consequence, and works that do, are rarely

successful. One such work is the entry of Antonio Monestiroli to the competition for the location of Les Halles in Paris (1978). His proposal was to leave the place, after the destruction of the famous market halls, almost completely open; to give this place back to nature, to make it into a precinct where the city is buried; a green open centre with the church pushed aside, from which the surrounding works of men, the city, can be contemplated. Speaking about the modern human condition in this way, in a way only architecture can, is very rare in modern architecture.[71] The design of Monestiroli recalls a related aphorism of Nietzsche. His 'philosophy with the hammer' stood at the beginning of many contradictory tendencies in modern architecture and it is no surprise that he has been discovered again recently, now as the philosopher of Postmodernism.[72] But almost no one has even tried to realise what he called an 'architecture for the perceptive'. Under this caption he wrote in *The gay sciences* (1882): 'There is and probably will be a need to perceive what our great cities lack above all: still, wide extensive places with tall, spacious, lengthy colonnades for inclement or unduly sunny weather where no traffic noise or street cries can penetrate, and where a finer sensibility would forbid even a priest to pray aloud: buildings and locations that express as a whole the sublimity of stepping aside to take thought for oneself. The time is past when the Church possessed the monopoly of reflection; when the *vita contemplativa* primarily had to be a *vita religiosa*; and yet that is the idea expressed in everything the Church has built. I do not know how we could ever content ourselves with its buildings, even stripped of their ecclesiastical function; they speak far too emotive and too constrained a language, as houses of God and as showplaces of intercourse with another world, for us as godless people to think our thoughts in them. We want to have ourselves translated into stones and plants; we want to have ourselves to stroll in, when we take a turn in those porticoes and gardens.'[74]

Conclusion

In contrast with the design of Monestiroli for the location of *Les Halles*, one must note that in the beginning of the 1970s, the Smithsons reopened the debate on the themes discussed at Royaumont. They showed a keen interest in the design of the *Free University* by Candilis – Josic – Woods and Manfred Schiedhelm (1963-73). In 1962 they rejected the Dutch concept of 'Une "casbah" organisée' on the scale of city planning.[75] In the beginning of the 1970s, however, with their design for Kuwait City (1968-70) and Lucas Headquarters (1973-74), the concept was accepted for exploration of a new type of building: Mat Building. Mega-structures were out and mini-structures were in. As such flexibility and multifunctionality where discussed again at the meetings in Berlin (1973), at the Free University, and in Rotterdam (1974), with visits to the Terneuzen Townhall designed by Van den Broek & Bakema (1963-72), the office building Centraal Beheer in Apeldoorn designed by Herman Herzberger (1969-72) and the 'Pastoor van Ars' church in The Hague designed by Aldo van Eyck (1964-69).[76] In 1974 Alison Smithson published 'How to Recognize Mat-Building' and one year later '*Team X at Royaumont 1962*'.[77] From this background one can understand that in 1991 the Royaumont text was republished together with the text of the Rotterdam meeting. Maybe we can conclude that for the Smithsons, both discussions comprised everything of interest for them in Team X.[78] At the same time, one might question how much wiser they had become in the second round.

Notes

1. English translation: Friedrich Nietzsche, *The Birth of the Tragedy* (section 23), Walter Kaufmann (ed. & transl.), *Basic Writings of Nietzsche*. New York (Random House) 1992, p. 136.
2. Max Risselada and Dirk van den Heuvel (ed.), *Team X, 1953-81, in search of a Utopia of the present*. Rotterdam (NAi) 2005. The exhibition at the NAi in Rotterdam was from 23 September 2005 till 10 January 2006. The conference was held at the Faculty of Architecture in Delft, 8-9 January 2006.
3. Risselada and Van den Heuvel (note 2), p. 343.
4. Giancarlo De Carlo, 'Problemi concreti per i giovani delle colonne', *Casabella* No. 204, 1954.
5. Giancarlo De Carlo, 'Statement', *Casabella* No. 214, 1957. This statement was the argument for him leaving the editorial board of *Casabella*. In his view, the war against formalism in *Casabella* was fairly compromised by the dominant theme set by Ernesto Rogers: continuity.
6. Oscar Newman, *CIAM '59 in Otterlo*. Stuttgart (Krämer) 1961, p. 91.
7. Peter Smithson was in the audience of Summerson's lecture at the RIBA and participated in the discussion afterwards. John Summerson, 'The Case for a Theory of Modern Architecture', in: *RIBA Journal*, June 1957, pp. 307-310. Summerson refers to Walter Gropius, *The Scope of Total Architecture* (1956), p. 49.
8. Henry-Russell Hitchcock and Philip Johnson, *The International Style*. 1932.
9. James Stirling, 'From Garches to Jaoul. Le Corbusier as domestic architect in 1927 and 1953', in: *Architectural Review* Sept. 1955. James Stirling, 'Regionalism and Modern Architecture', in: *Architects Yearbook* 7, 1957.
10. A. van Eyck and G. Knemeijer, 'Stadskern als donor', in: *TABK* Sept. 1970 (No. 22), pp. 469-470; and *Forum* Nov. 1970 (No. 4), pp. 20-27.
11. Siegfried Giedion, *Architektur und Gemeinschaft*, Tagebuch einer Entwicklung. Hamburg (Rowolt) 1956, pp. 70-71. Leonardo Benevolo, *History of modern architecture*. London (Routledge & Kegan Paul) 1971, pp. 813-21. (English translation after the third Italian edition of Storia dell'architettura moderna, 1966.)
12. P.K. van Meurs (secretary of the technical committe of the PPD Noord-Holland), 'Bijdrage tot het streekplanwerk. Studierapport Noord-Kennemerland geeft niet op alle vragen antwoord', *Bouw* No. 16. 1959, p. 424. Dr. W. Huygens (burgemeester van Bergen N.-H.), 'Gezamenlijk initiatief, uitgewerkt in teamverband', in the same issue pp. 418-419.
13. J.B. Bakema, *Van Stoel tot Stad, een verhaal over mensen en ruimte*. Zeist (De Haan) 1964.
14. Oscar Newman, *CIAM '59 in Otterlo*. Stuttgart (Krämer) 1961, pp. 94-97, pp. 90-91 and pp. 218-220.
15. Reyner Banham, 'Neoliberty: The Retreat from Modernist Architecture', *The Architectural Review*, No. 747, 1959. In answer to Banham Rogers wrote an editorial of Casabella No. 228: 'L'evoluzione dell'architettura, riposta al custodo dei frigidaires'. The Italian debate about Neoliberty had ignited some years previously. Cf.: Manfredo Tafuri, *History of Italian Architecture, 1944-1984*. Cambridge Mass./London 1989, pp. 52-59.
16. Illustrative in this respect is Giorgio Cuicci, 'The Formative Years', in: *Casabella* No. 619-620, January/February 1995 (special double issue dedicated to the memory of Manfredo Tafuri), pp. 13-25. Here, Cuicci refers to lectures given in Rome during the late fifties, in which Tafuri demonstrated by visual evidence the untenability of a unified concept of modern architecture.
17. Francis Strauven, *Aldo van Eyck. Relativiteit en verbeelding*. Amsterdam (Meulenhoff) 1994, pp. 403-412.
18. Aldo van Eyck, 'De milde raderen van de reciprociteit – The medicine of reciprocity tentatively illustrated', in: *Forum* No. 7 1960-1961, pp. 205-206 en 237-238, 252.
19. Alison Smithson (ed.), *Team X Meetings 1953-1984*, Delft 1991, p.79. The text of the meeting in Royaumont was first published in Architectural Design, Nov. 1975, pp.664-689.
20. Alison Smithson (ed.), *Team X Meetings 1953-1984*. Delft 1991, p.79. The text of the meeting in Royaumont was first published in *Architectural Design* Nov. 1975, pp. 664-689.
21. Idem, p. 81. This issue was further elaborated on by Christopher Alexander, also participating in the debate at Royaumont, in his 'The city is not a tree', Design Feb. 1966. See Henk Engel, 'Beeld en structuur', nawoord in J. Castex, J. Ch. Depaule, Ph. Panerai, De rationele stad. Van bouwblok tot wooneenheid. Nijmegen, SUN, 1984.
22. Ibidem, p. 81. This issue was further elaborated on by Christopher Alexander, also participating in the debate at Royaumont, in his 'The city is not a tree', *Design* Feb. 1966. See Henk Engel, 'Beeld en structuur', nawoord in Jean Castex, J. Ch. Depaule, Ph. Panerai, *De rationele stad. Van bouwblok tot wooneenheid*. Nijmegen (SUN) 1984.
23. The concept of "une 'casbah' organisée" was introduced by the Dutch Team X architects in 1959, Forum No. 7, 1959.
24. The concept of 'une "casbah" organisée' was introduced by the Dutch Team X architects in 1959, *Forum* No. 7, 1959.
25. Carlo Aymonino, *Città Territorio: Un esperimento didattiico*. Bari 1964. See also Carlo Aymonino, Il significato della città. Rome/Bari (Laterza) 1975, pp. 47-66 and pp. 116-123; Reyner Banham, Megastructure, urban future of the recent past. London 1978, p. 64; Manfredo Tafuri, *History of Italian Architecture, 1944-1985*. Cambridge Mass./London 1989, p.76.
26. Aldo Rossi, E. Mattioni, G. Polesello and

L. Semerani, 'Città e territorio negli aspetti funzionali e fugurativi della pianificazone continua', Atti del X Congresso INU, Trieste 14-16. 10. 65, also in Aldo Rossi, Scritti *scelti sull'* architettura e città, 1956-1972, Milan, 1978[2], p. 297. For the explanatory notes on 'Locomotiva 2' of Gianugo Polesello, Aldo Rossi, Luca Meda, see Casabella Continuità 278, Aug. 1963.

27. Aldo Rossi, E. Mattioni, G. Polesello and L. Semerani, 'Città e territorio negli aspetti funzionali e fugurativi della pianificazone continua', *Atti del X Congresso INU*. Trieste 14-16. 10. 1965, also in Aldo Rossi, *Scritti scelti sull' architettura e città, 1956-1972*. Milan 1978[2], p. 297. For the explanatory notes on *Locomotiva 2* of Gianugo Polesello, Aldo Rossi, Luca Meda, see *Casabella Continuità* No. 278, Aug. 1963.

28. Eric Mumford, *The CIAM Discourse on Urbanism, 1928-1960*. Cambridge Mass./ London 2000.

29. Aldo Rossi, Nuovi problemi, Casabella Continuità No. 264, 1962. English translation of citation from Ekistics no. 87, 1963.

30. Aldo Rossi, 'Nuovi problemi', in: *Casabella Continuità* No. 264, 1962. English translation of citation from *Ekistics* no. 87, 1963.

31. For a most perceptive review of this approach in response to the Tel Aviv competition see Manfredo Tafuri, 'Razionalismo critico e nuovo utopismo', in: *Casabella Continuità* No. 293, Nov. 1964, pp. 20-42.

32. Joan Ockman, *Architecture Culture. A Documentary Anthology*. New York (Rizzoli) 2000, pp. 319-320.

33. In *Urban Structuring* only the last project for Street: Somerset, Engels, 1964, was designed after Royaumont. This project was presented to Team X in Berlin 1965.

34. Max Risselada and Dirk van den Heuvel (ed.), *Team X, 1953-81, in search of a Utopia of the present*, Rotterdam, NAi, 2005, p. 335.

35. Risselada and van den Heuvel (note 2), p. 335.

36. Aldo Rossi, 'Un giovane architetto tedesco: Oswald Mathias Ungers', in: *Casabella* No. 244, Oct.1960, pp. 22-35.

37. Reinhard Gieselmann / Oswald Mathias Ungers, 'Zu einer neuen Architektur', reprint in Ulrich Conrads, Programme und Manifeste zur Architektur des 20. Jahrhunderts, Berlin / Frankfurt a.M. / Wien (Ulstein) 1964, pp.158-159. English translation of citations from Heinreich Klotz, *The History of Postmodern Architecture*, Cambridge Mass. / London, MIT, 1988, p.110.

38. Reinhard Gieselmann / Oswald Mathias Ungers, 'Zu einer neuen Architektur', reprint in Ulrich Conrads, *Programme und Manifeste zur Arrchitektur des 20. Jahrhunderts*. Berlin / Frankfurt a.M. / Wien (Ulstein) 1964, pp.158-159. English translation of citations from Heinreich Klotz, *The History of Postmodern Architecture*. Cambridge Mass. / London (MIT) 1988, p.110.

39. Alvar Aalto, 'The Decadence of Public Building', in: *Arkkitehti-Arkitekten* No. 9-10/1953, p.148. See also Göran Schildt, *Alvar Aalto, the early years*. New York 1984, especially Ch. 7 'The multipurpose building', pp. 231-241. James Stirling, 'Regionalism and Modern Architecture', *Architects' Year Book*. London (Lund Humphies) 1957, pp. 62-68.

40. Ockman, *Architecture Culture*. (note 32), pp. 319-324.

41. Fumihiko Maki, 'Group Form', in: *Werk* 1963 No.7, pp. 258-263.

42. Fumihiko Maki / Masato Ohtaka, 'Collective Form – Three Paradigms', in: Fumihiko Maki, *Investigations in Collective Form*. St. Louis 1964.

43. Aldo van Eyck, 'Steps Towards a Configurative Discipline', in: *Forum* 1962 No.3, pp. 81-94. Maki attended the Team X meeting of 1960 in Bagnol-sur-Cèze, two months after the World Design Conference in Tokyo. At the time Maki was working at Washington University (St. Louis). In the winter of 1961-1962, Bakema and Van Eyck were invited to Washington University. On that occasion they visited settlements of the Pueblo Indians in New Mexico. An article on the Pueblos by Van Eyck was published with his 'Steps Towards a Configurative Discipline' in the same issue of *Forum*. In 'Steps Towards a Configurative Discipline' Van Eyck quotes at length from 'an essay on Group Form' by Maki and Othaka published at Washington University (St. Louis) in 1961. Probably this is the same text from which the German translation in *Werk* 1963 No.7 was made. Reyner Banham, in *Megastructure, urban future of the recent past* (London 1978) gave credit to Maki for introducing the term mega-structure in his publication of 1964. In fact Maki did, only three years earlier in the publication from which Van Eyck took his quotation.

44. O.M. Ungers, 'Zum Projekt "Neue Stadt" in Köln', in: *Werk* 1963 No.7, pp. 281-284.

45. Herman Sörgel, *Einführung in die Architektur-Ästhetik*. Munich (Piloty & Loehle) 1918, p.160. On the next page, the topic of the House and the City is also introduced (p.161). On the envelope of volume as interface, see pp. 85-86.

46. Kurt Schwitters, 'Schloss und Kathedrale mit Hofbrunnen', in: *Frühlicht* No. 3, 1922. Re-published in Kurt Schwitters, *Das literarische Werk*. Band 5 *Manifeste und kritische Prosa*. Cologne (DuMont) 1981, p. 96.

47. Here is an obvious parallel with the procedure of Neoplasticism, described by Theo van Doesburg in 'Grondbegrippen van de nieuwe beeldende kunst', published in two parts in: *Tijdschrift voor wijsbegeerte*, 1919 no. 1, pp. 30-49, and no. 2, pp.169-188. The text was published in German, with alterations, in the series of Bauhausbücher: Theo van Doesburg, *Grundbegriffe der neuen gestaltenden Kunst*. Munich 1925. Most informative about the work of Kurt Schwitters: John Elderfield, *Kurt Schwitters*. London (Thames and Hudson) 1985. Lambert Wiesing, *Stil statt Wahrheit. Kurt Schwitters und Ludwig Wittgenstein über ästhetische Lebensformen*. Munich (Wilhelm Fink) 1991.

48. O.M. Ungers, *Veröffentlichungen zur Architectur*. Berlin (TU, Lehrstuhl für Entwerfen VI) 1964-1969.

49. Aldo Rossi, 'Un giovane architetto tedesco: Oswald Mathias Ungers', in: *Casabella* No. 244, Oct.1960, English translation, p. VI.

50. E. Bonfanti c.s., *Architettura rationale*. Milan (Angeli) 1977, pp. 250-252.

51. Aldo Rossi, *Scientific autobiography*. Cambridge Mass. (MIT Press) 1981. See also the introduction to the second edition of *L'architettura della città*: Aldo Rossi, *The architecture of the city*. Cambridge Mass. (MIT Press) 2001[11], pp. 165-167. Looking back Massimo Scolari wrote in 1985: 'For a whole generation urban analysis and the concept of typology have represented, from the early Venetian research of Saverio Muratori until the studies in the Venetian area by Aldo Rossi, Carlo Aymonino and Costantino Dardi, an ideological and a design point of reference. (…) This position, which Tafuri was to define "typological criticism", and which found in Rossi's *Architecture of the city* a true manifest, took part to the difficult "Sixty-eight" period next to the most progressive ideas of the Movimento Studentesco, which had recognized its qualities of moral firmness and of critique of the ancient regime.' Massimo Scolari, 'The Typological Commitment' ('L'impegno tipologica'), in: *Casabella* No. 509-510, 1985 (special issue *I terreni della tipologia*) pp. 42-45. Scolari refers to Manfredo Tafuri, *Theories and history of architecture*. London/Toronto/Sydney/New York (Granada) 1980, pp. 158-163.

52. Aldo Rossi, 'Considerationi sulla morfologia urbana e tipologia edilizia', in: AAVV, *Aspetti e problemi della tipologia edilizia*. Documenti del corso di 'Caratteri distributivi degli edifici'. Anno accademico 1963/64. Venice 1964. Republished in Aldo Rossi, *Scritti scelti sull'architettura e la città 1956-1972*. Milan (Clup) 1975, p. 209.

53. AAVV, *Aspetti e problemi della tipologia edilizia. Documenti del corso di 'Caratteri distributivi degli edifici'*. Anno accademico 1963/64. Venice 1964. AAVV, *La formazione del concetto di tipologia edilizia. Atti del corso di 'Caratteri distributivi degli edifici'*. Anno accademico 1964/65. Venice 1965. *Rapporti tra morfologia urbana e tipologia edilizia. Atti del corso di 'Caratteri distributivi degli edifici'*. Anno accademico 1965-1966. C. Aymonino, M. Brusatin, G. Fabri, M. Lena, P. Lovera, S. Lucianetti, and A. Rossi, *La città di Padova*. Rome (Officina) 1970.

54. In 1950 Saverio Muratori became professor in Venice for teaching Caratteri distributivi degli edifici. In 1954 his task was changed to Composizione architettonica. His most important publications are: Saverio Muratori, Studi per una operante storia urbana di Venezia. Rome (Istituto poligrafico della stato)1960, and Saverio Muratori, *Studi per una operante storia urbana di Roma*. Rome (Centro studi di storia urbanistica) 1963. For an introduction to this research see Saverio Muratori, *I caratteri degli edifici nello studio dell'architettura*. Venice 1950. About the research of Muratori see Jean Castex, Philippe Panerai, 'Typologieën', O 1, 1981 (original 1979). Nikolaus Kuhnert, *Soziale Elemente der Architektur: Typus und Typusbegriffe im Kontext der Rationalen Architektur*. Aachen (diss. TH) 1979. Anne Vernez Moudon, 'Getting to know the built landscape: typomorphology', in: Karen A. Frank and Lynda H. Schneekloth, *Ordering Space*. New York 1994, pp. 289-311. Elwin A. Koster, *Stadsmorfologie. Een proeve van vormgericht onderzoek ten behoeve van stedenbouwhistorisch onderzoek*. Groningen (diss. RUG) 2001, pp. 50-70. About the career of Muratori: Giorgio Pigafetta, *Saverio Muratori Architetto. Teoria e progetti*. Venice (Marsilio) 1990. Marina Montuori (ed.), *10 maestri dell'architettura italiana. Lezioni di progettazione*. Milan (Electa) 1994[2], pp.130-161. G. Cataldi, G.L. Maffei, P. Vaccaro, 'Saverio Muratori and the Italian school of planning typology', in: *Urban Morphology*. Vol. 6, No. 1, 2002, pp. 3-14.

55. Aldo Rossi, 'Considerationi sulla morfologia urbana e tipologia edilizia' and 'I problemi tipologici e la residenza', both in: AAVV, *Aspetti e problemi della tipologia edilizia. Documenti del corso di 'Caratteri distributivi degli edifici'. Anno accademico 1963-1964*. Venice, 1964. Aldo Rossi, 'I problemi metodologici della ricerca urbana', in: AAVV, La formazione del concetto di tipologia edilizia. Atti del corso di 'Caratteri distributivi degli edifici'. *Anno accademico 1964-1965*. Venice, 1965. Aldo Rossi, 'Tipologia, manualistica e architettura' and 'La città come fondamento dello studio dei caratteri degli edifici', both in: AAVV, *Rapporti tra morfologia urbana e tipologia edilizia. Atti del corso di 'Caratteri distributivi degli edifici'. Anno accademico 1965-1966*. Venice 1966. All these texts are republished in: Aldo Rossi, *Scritti scelti sull'architettura e la città 1956-1972*. Milan (Clup) 1975.

56. Introduction to the second edition of *L'architettura della città*: Aldo Rossi, *The architecture of the city*. Cambridge Mass. (MIT Press) 2001[11], pp. 165-167.

57. Henk Engel, 'Aldo Rossi, The Architecture of the City', in: *The Architecture Annual 2001-2002. Delft University of Technology*. Rotterdam 2003, pp.18-22.

58. Aldo Rossi, *The Architecture of the City*. Cambridge Mass. (MIT Press) 2001[11], p. 127.

59. English translation: Friedrich Nietzsche, 'On the Genealogy of Morals' (Second essay, section 12), Walter Kaufmann (ed. & transl.), Basic Writings of Nietsche, New York, Random House, 1992, pp. 513-514.

60. English translation: Friedrich Nietzsche, 'On the Genealogy of Morals' (Second essay, section 12), in: Walter Kaufmann (ed. & transl.), *Basic Writings of Nietsche*. New York

(Random House) 1992, pp. 513-514.
61. Aldo Rossi, *The Architecture of the City* (note 58) p. 64 note 1.
62. Fritz Schumacher, *Vom Städtebau zur Landesplanung und Fragen der Städtebaulicher Gestaltung*. Tübingen (Wasmuth) 1951, p. 37.
63. Aldo Rossi, The architecture of the city, Cambridge Mass., MIT Press, 2001[11], p. 64.
64. Aldo Rossi, *The Architecture of the City* (note 58), p. 64.
65. Ibid., pp. 130-131.
66. Aldo Rossi, *The Architecture of the City* (note 58), pp. 130-131.
67. Henk Engel, François Claessens, 'Mass Housing: Object of Urban Analyses and Architecture', in: Susanne Komossa (eds.), *Atlas of the Dutch Urban Block*. Bussum (Thot) 2005, pp. 266-275. François Claessens, *De stad als architectonische constructie. Het architectonisch discours van de stad. Duitsland 1871-1914*. Delft (diss.) 2005.
68. Masimo Cacciari, 'Sulla genesi del pensiero negativo', in: *Contropiano* no 1, 1969; Massimo Cacciari, *Metropolis. Saggi sulla grande città di Sombart, Scheffler e Simmel*. Rome (Officina) 1973; Manfredo Tafuri, *Progetto e Utopia. Architettura e sviluppo capitalistica*. Rome/Bari (Laterza) 1973. Rixt Hoekstra, *Building versus Bildung*. Groningen (diss.) 2005, pp. 173-183.
69. Friedrich Nietzsche, Nachgelassene Fragmente, 1876-77. English translation, see note 1, p. 336.
70. Friedrich Nietzsche, *Nachgelassene Fragmente, 1876-1877*. English translation, see note 1, p. 336.
71. The same theme of bringing the audience in a position of contemplating the city as an artefact I have analysed in my article on Rossi's design for the Bonefantenmuseum in Maastricht: Henk Engel, 'The Bonefantenmuseum. A moment in the work of Aldo Rossi, a monument for Maastricht', in: *Kunst & Museumjournaal*, No. 3, 1991, pp. 1-6. For the design for the location of Les Halles, see Antonio Monestiroli, *Opere, progetti, studi di architettura*. Milan (Electa) 2001, pp. 40-47.
72. In 1994 a symposium was held in Weimar: *Abbau-Neubau-Überbau: Nietzsche and 'An Architecture of our Minds'*. The results were published in: Alexandre Kostka and Irving Wohlfarth (ed.), *Nietzsche and 'An Architecture of our Minds'*. Los Angeles (Getty Research Institute) 1999. For a most profound study of the theme of architecture in the philosophical work of Nietzsche, see Markus Breitschmid, *Der Bauende Geist. Friedrich Nietzsche und die Architektur*. Lucerne (Quart Verlag) 2001. Up till now the only Dutch study on the theme is by François Claessens, *Nietzsche en het Klassieke*. MA thesis Faculty of Philosophy, University of Amsterdam (unpublished), 1996.
73. Friedrich Nietzsche, Die fröhliche Wissenschaft, 1882. English translation, see note 1, p. 344.
74. Friedrich Nietzsche, *Die fröhliche Wissenschaft*. 1882. English translation, see note 1, p. 344.
75. See note 21.
76. The most remarkable Dutch building in this line of exploration, however, 't Karregat in Eindhoven designed by outsider Frank van Klingeren (1970-73), was paid no attention at all.
77. Alison Smithson, 'How to recognize Mat-Building', in: *Architectural Design*, Sept. 1974.
78. See note 19. For further research on these themes, see Hashim Sarkis (ed.), *Case: Le Corbusier's Venice Hospital and the Mat-Building Revival*. Munich/London/New York (Prestel) 2001.

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Endry van Velzen (1961) graduated as an architect from the TU Delft, where he also worked as a research associate. Since 1993 he is a partner with De Nijl Architecten in Rotterdam, where he works on projects for urban renewal on the crossover between architecture and urbanism. He also publishes regularly on this topic. Between 2002 and 2006 he was affiliated as lector TransUrban with the Rotterdam University.

In the previous issue of *OverHolland* (3) we have accidentally deleted the information about author Esther Gramsbergen. We hope to make amends by including her in this issue. *The editors*

Esther Gramsbergen (1964) graduated in 1989 as an architect at the TU Delft. She worked for various architecture offices, amongst which are Karelse van der Meer Architecten (Groningen, Rotterdam) and the ArchitectenCie. (Amsterdam). Since 1999 she works at the faculty of Architecture of the TU Delft as an assistant professor. She is co-author of the *Zakboek voor de Woonomgeving* (2001). At the moment her research and teaching focusses on typomorphological studies of Dutch cities.