

# The study of urban form in the Netherlands

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**Abstract.** *The study of urban form in the Netherlands has been heavily influenced by the Modern Movement and characterized by strong disciplinary specialization. On the one hand there is the distinction between art and engineering and on the other the search for instrumental universal rationality. This helps to explain the increasing interest, initially within academe, in the first English and German translations of some outstanding works of Italian researchers, who were at the time already acting as leaders in new perspectives in the fields of urban form and architecture. In keeping with the Dutch practical attitude, these investigations contributed to urban developments of the post-industrial era, beginning at the end of the 1970s. Today much of the study of urban form entails investigation of how global trends affect local systems and how local systems can be improved by analysing best practices. In that respect the Netherlands has been able to establish a leading role in contemporary architecture that is widely recognized within Europe.*

*Keywords: building typology, architecture, disciplinary specialization, urban policy, hybrid buildings*

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The Modern Movement has played a major role in the study of urban form in the Netherlands. Related to this, analytical methods have been characterized by strong disciplinary contrasts. There has been a persistent separation between scientific and humanistic disciplines. This was especially evident up until the end of the reconstruction phase following the Second World War. Consequently, architectural and urban history has largely been under the control of art historians, and hence primarily concerned with stylistic aspects. In contrast, technical aspects relating to tectonics and infrastructures have been the domain of engineers.

This separation between the arts and engineering affected both the understanding of urban form and its role in design practice. This historical context explains why the

work by H. Brugman and C. H. Peters, *Oud-Nederlandsche steden in haar ontstaan, groei en ontwikkeling* (1909) was largely forgotten during the growth of modernity, but has been recognized since the 1960s as a strategic precedent and counterpoint in attempts to focus discussion on the premises of industrial rationality in the field of urban analysis. In fact this three-volume work was written by a historian and a lawyer with the clear intention of casting a new interdisciplinary light on the study of city form. It combined urbanism, history and landscape. In the mid-1970s it was regarded by some of the more talented young scholars as the first contribution to urban morphology and building typology, at a time when the rise of a new discipline was scarcely being contemplated. Also during the 1970s, a promising group of students, including Henk Engel and

Sergio Umberto Barbieri, had started to share a personal interest in urban form and building type and were attending the art and architecture seminar on utopia run by the historian Kees Vollemans, who stressed the importance of subjectivity and human will in design. Vollemans introduced students to the work of Manfredo Tafuri, encouraging discussions relating to *Teoria e storia dell'architettura* (Tafuri, 1968) and *Progetto e utopia* (Tafuri, 1973). An English translation of the latter was available in 1976, and Vollemans himself translated into Dutch extracts from both books for use in lectures and seminars.

The availability of the German edition of Aldo Rossi's *Die architektur der stadt* (Rossi, 1972) was crucial at this time in creating increasing awareness of urban morphology as an interdisciplinary field. Rossi was seen by some as having constructed a new relationship between modernity, history and architectural design and, additionally, between architecture and the form of the city. This perception was above all based on an idea of form derived from *Elementi primari* (Rossi, 1966). According to Rossi the *Elementi primari* preserved their own inner logic despite their change of use over centuries, and they were evidence of an enduring rationality that suggested a timeless archetypal foundation of architecture in which all built artifacts are specific historical interpretations. In this way Rossi seemed to provide young Dutch architects with the possibility of bridging the gap that modernity had exposed between building and history, and therefore between history and rationality. Complementary to Rossi, Tafuri's legacy delivered an architectural criticism concerning history and context, which was missing in the Dutch debate. In fact, these positions were completely different from those of Max Risselada and others that focused on plan analysis and on a close reading of the architectural prototypes of modernism, such as the works of Russian constructivists, or of Ernst May in Frankfurt. To understand this position, it is important to remember that architectural criticism at the time was mainly ideological, based on the work of Alexander Mitscherlich (1963) and Jürgen Habermas (1969). This was

applied to architecture and urbanism but was not concerned with the relationship with architectural and urban form. At this time placing stress on the importance of tracing any artifact back to a related system, or way of thinking, was the way to true understanding of the value and necessity of studying urban form.

From that moment onward there was increasing awareness in the Netherlands that to move to a rationalist position implied relating the language of architectural form to history, which conventionally has its roots in classicism. This was a standpoint very different from that of van Eyck, the Smithsons, Team X, and the legacy of the Modern Movement after the Second World War, which did not recognize any relationship to historical forms (Engel, 2013).

In 1975 the tradition of *stadsanalyse* officially started at the Technische Universiteit Delft with the analysis of areas designated for urban renewal, like the study of Dapperbuurt by Henk Engel and Janne Hobus (Engel and Hobus, 1978). For this work the study of Schoonhoven by Henk Visser was pivotal (Visser, 1964). It focused attention on topography, ground parcellation and site ownership as important factors in urban development and form.

Various branches of teaching followed the direction in which architecture was moving. Within the study of urbanism, Rein Geurtsen (1984) influenced the work of Han Meyer and Maurits de Hoog (Stroink and De Hoog, 1985). This led to a series of graduate theses, such as those of Rob Louët, Casper van der Hoeven and Jos Louwe in 1980, which were published in 1985 in the form of the book *Amsterdam als stedelijk bouwwerk*. Ultimately landscape architecture was also affected by these new developments in research.

### The construction of a discipline

The establishment in the Netherlands of a largely new research field identifying itself with urban morphology was the result of converging interests dealing with modernist ideological criticism, rooted in the late-1960s

student movements and transformations in the structure of the city. Associated with post-industrial economic developments, these aspects would get even more entangled with each other after the end of the 1970s. Significant stimuli were conferences, book translations and exhibitions, which resulted in wider dissemination of what had largely matured within academic symposia. Sergio Umberto Barbieri and Henk Engel organized in 1977 a series of conferences at the Technische Universiteit Delft. Among those invited was the Italian theoretician and architect Giorgio Grassi, leaving behind an important manuscript on typology, published in *Aktie onder architectuur: het ontwerp van 4 architecten* (Risselada et al., 1968). In addition, Hans Kollhoff's seminal drawings, published in *Collage city* (Rowe and Koetter, 1978), inspired Barbieri and Engel, suggesting a possible translation of Rossi's ideas on the city. The Dutch translation of Tafuri's *Progetto e utopia* was published in 1978 as *Ontwerp en utopie, architectuur en ontwikkeling van het kapitalisme*. Translated by Barbieri, Boekraad, Denissen and Vollemans, it was immediately recognized as a fundamental step towards the creation of a shared consciousness of the new ideas. However, it did not achieve the expected success. According to the authors, this was probably owing to difficulties with the translation.

In parallel with these intellectual initiatives in the 1990s, the study of urban form was influencing planning practice in, for example, the renewal of nineteenth-century areas such as the Oude Westen next to the city centre in Rotterdam and the Dapperbuurt in Amsterdam. Additionally the approach developed at Technische Universiteit Delft, which matured through links to Italian research and design, was brought to the attention of local municipalities as a criticism of current procedures. In the practice of urban renewal various approaches were evident at that time, including the 'spot-wise' approach of filling in and the so-called 'Bouwen voor de buurt'. By basically denying the overall relationship of the interventions to the city form as a whole, such approaches were mainly concentrating on

inhabitants' needs and interests and directed to improving housing conditions. Among the well-known architects at that time, only Aldo van Eyck, Theo Bosch and Carel Weeber tried to avoid this 'non contextual and ahistorical approach'. The shift to a more urban instead of neighbourhood based ideology and approach took place when local politicians and the *Dienst Stadsontwikkeling*, especially the Rotterdam Municipality, realized that the city was starting to shrink, losing many inhabitants forced to move elsewhere owing to urban renewal policies and practices. The main feature of these policies was the moving of people to new towns, causing declining densities in rebuilt areas and simultaneously an increase in the average amount of space per household. In fact, the number of inhabitants per dwelling in the Netherlands declined.

In an attempt to stop this trend, at the end of the 1970s former harbour areas attracted the attention of local politicians as potential housing areas, including for people with higher incomes. It was realized that without higher-income inhabitants, tax revenues would decline and cultural institutions would be unsupportable. In recognition of this, the pragmatic Dutch spirit was able to form an alliance with the new cultural perspectives that followed modernist practice.

It was against this background that a series of city developments was planned, starting with the Rotterdam Müller Pier Housing Competition in 1977. In the same year, Francesco Dal Co, Kenneth Frampton and Stanislaus von Moos were involved in contributions to the periodicals *Lotus*, *Architectural Review* and *Archithese*, and were invited by *Architecture International Rotterdam (AIR)* to deliver a 'critical reading' of Second World War reconstruction interventions in the city of Rotterdam. Their essays (Eyckman, 1979) had a remarkable impact on the architectural and urban discourse of the time. Moving away from the initial task of commenting on and criticizing the given list of 22 buildings, all three participants made a plea for a better architectural climate, claiming a central role for reflection and the forming of new ideas regarding the spatial development of the

city (Vollaard and Gijlema, 2007). It was not by chance that *AIR* invited three historians, since an historical awareness of architecture and the city was considered to be crucial but largely lacking. The challenge was to fill the gap between the approaches of historians and engineers.

This gave rise to a crucial discussion on the reading and understanding of the city. For the *AIR* Design Competition, organized by Barbieri, Weeber and van Hattem, five architects (Joseph Kleiues, Aldo Rossi, Oswald Mathias Ungers, Derek Walker and Richard Meier) were invited to prepare design proposals for the Rijnhaven/Wilhelmina Pier in Kop van Zuid (Barbieri and Weeber, 1982). Rossi's proposal in particular introduced a new form of urban research in the Netherlands, putting forward a manifest for an 'architecture of the city'. The *AIR* manifesto and discussions had a major impact on the thinking of municipalities, not only in Rotterdam and Amsterdam, but also in The Hague. The debate on the results of the *AIR* competition had a major influence on Dutch urban policies and planning activities during the 1980s. It gave rise to a new concern for urban form and the qualities of public space. Another crucial event for the discipline was the Italian exhibition on Venice that Barbieri and Weeber brought to Rotterdam under the title *10 Beelden voor Venetië*.

These events created controversy among the Dutch audience. The authors were blamed for bringing 'paper architecture' into the discussion. Even more crucial was the exhibition *Architectuur en planning* and the related catalogue *Architectuur en planning: Nederland 1940–1980 – Dutch post-war architecture and urban planning*. Barbieri (1983) stressed the demise of a rational architecture as the topic to be pursued.

### Fields of application

In relation to the growth of urban morphology John Habraken played a crucial role, emphasizing the idea of 'system' within the production of architectural and urban form.

He observed how people were changing their own living spaces, at the individual family scale, by indirectly claiming a role in their construction. After the Second World War the Netherlands was facing a period of unprecedented need for housing with limited financial means: this was the so-called 'wederopbouw periode'. Habraken (1961) developed his idea of 'De drager en de mensen'. His ideas need to be seen in the light of the housing shortage and subsequent industrial methods of construction, including high-rise building. He was attempting a compromise between unavoidable mass production principles and the perceptions of the inhabitants. He distinguished between on the one hand what should be under the control of the institutions, and the rules of technology, and on the other what could be claimed by the community and the individual. The 'cultural' improvement of this approach was immediately evident, and its application in the study of urban fabrics became an element in Habraken's work, especially when high-rise development was criticized and forms of low-rise development became common.

Habraken founded the *SAR* group (*Stichting Architecten Research*) which was related to *Bond Nederlandse Architecten (BNA)*. Architectural firms, including Van den Broek and Bakema, financed the group. However, there were tensions between *Forum*, the international journal in which Van den Broek and Bakema were involved, and *SAR*. After a failed *SAR* competition in Maarseveld, Van den Broek and Bakema had to leave *SAR* to avoid conflict of interests. Compared to Habraken's attention to the production and building technology of housing, which were deeply imbued with modernity, *Forum* concentrated on new forms of living, and usually took a rather anti-urban, collective stance. Aldo van Eyck developed a more urban approach compared to that of other *Forum* members such as Herman Hertzberger and Piet Blom. This was probably caused by the severe criticism of the so-called Dutch Structuralism by Peter and Alison Smithson in 1962 (Engel, 2007; Smithson, 1991). Van Eyck was stimulated to reformulate his point of view after this

criticism. Nevertheless, the tissue theories of Habraken influenced the design and planning of urban renewal areas, such as Jacobsplein in Rotterdam.

With regard to this, Barbieri made a first attempt in the international journal *Lotus International* (Barbieri, 1978) to describe the architectural proposals of van Eyck and Theo Bosch in Zwolle and Weeber in Dordrecht. Although underlining a rational foundation based on industrial principles of repetition and modularity, resembling those still evident in the historical centre, Barbieri retrospectively considered that these examples were not entirely successful. The main problem was that from Granprè Molière onward architecture in the Netherlands was intended to be either an artistic or a technical practice and Dutch architects seemed not to be able to link these two aspects.

Within this framework, searching for a new rationality rooted in environmental context rather than in universal values and aspirations, the position of the Office for Metropolitan Architecture (OMA) is interesting. To understand it one has to return to the Internationale Bauausstellung in Berlin. There, after his return from the United States, Ungers together with Rem Koolhaas and Elia Zenghelis collaborated and criticized the 'historicist' approach of the Krier brothers. Especially in the proposal for the IJ-plein in Amsterdam in 1980, OMA was trying to continue the form and 'metaphorical' language of modernism. According to Lara Schrijver (2008), Koolhaas attempted to include housing corporations and future inhabitants in decisions about housing plans and design. Such an approach, in which there is provision for discussing alternatives, fits perfectly within Habraken's legacy of guaranteeing the participation of inhabitants in the design-driven decision making process.

This is of course very different from the Italian approach, which basically puts forward the architect as the specialist who makes a comprehensive proposal and leaves the politicians to act upon it. However, a disciplinary approach, developed within a critical architectural discourse, still also holds value in the Dutch context. In this respect

Engel's collaboration with Grassi for the 'Bebouwingsplan Vreeswijk Noord' 1999–2000 in Nieuwegein is of interest.

De Nijl Architecten, the office led by Engel, started its practice in 1979 by incorporating urban analysis into its architectural design work for urban renewal. However, within this perspective, De Nijl tried to move beyond a contextual approach. This procedure was, according to Engel himself, much closer to Rossi's *Tendenza* idea than to the views of Saverio Muratori, who thought that design should evolve from urban analysis. In fact, while the latter was searching for recurrences within a very specific homogeneous area in which he found evidence of a time-limited historical identity that he called 'type', the former was searching for meta-historical invariants by analysing the same architectural subject under successive transformations, defining them as primary elements. In accord with Rossi's position, Engel believes that urban analysis allows designers to be aware of different developments, for example within Dutch cities, transferring findings from one city to another. In his view, urban analysis generates a kind of knowledge that is proper to architecture intended as an 'autonomous' discipline (Engel *et al.*, 2013). In an early project in the Oude Westen district, close to the historical centre of Rotterdam, he introduced for example a gallery on the second floor at the rear of the block in such a way that ground and first-floor dwellings could as far as possible have front doors on the street side. This provides a load-bearing span of about 6 m between dwellings, corresponding to the proportions of a traditional Dutch house. This access feature is at variance with the 'modernistic' portico stairs. It 'imports' a foreign solution in order to connect with former Gothic and nineteenth-century houses in a modern project, built not by individual owners but by a housing corporation. It is these kinds of forms as well as the architecture of public institutions that establish and fuel city development (Gramsbergen, 2014).

In this respect it is not only Rossi who holds a central position, but also Jean Castex, Jean

Jacques Depaule and Philippe Panerai. With the translation of *Formes urbaines, de l'ilot à la barre*, originally published in 1977 and 7 years later translated into Dutch, not only monuments and institutions, but also transformations of the urban block enter Dutch discourse. Differing from the Italians, this Versailles school of urban morphology also took account of the common places of life in its studies, addressing the everyday environment of city dwellers: blocks and streets. Additionally, their studies had a broad time span, starting from the Paris of Haussmann and ending with the prototypical blocks of modernism/Congrès International d'Architecture Moderne. In fact, this research group assumes the presence of an inner logic that links the history of urban forms to everyday practices. In other words, it maintains that these practices are reflected in specific urban and architectural models, like the building block in a particular city at a particular moment in time.

In the Netherlands the design competition of the Haarlem Hofjes in 1992 reflects and reintroduces the *Hof*, the courtyard, as a typical feature of Dutch city form. The De Nijl projects of Paddepoel, Gouda and Vreeswijk all feature the *Hof* as a fundamental urban element. Sometimes it was already present in the urban tissue, as in Haarlem where it is a constituent element; in other cases it was introduced anew. In Maastricht the urban plan of the Sphinx Ceramique Terrain, a masterplan by Jo Coenen, Barbieri and Geurtsen, commissioned by the municipality in 1987–90, shows the urban block as an architectural object and urban entity that brings street, block and court into a very specific mutual relationship. In 1982 Weeber's design for the Venserpolder in Amsterdam experiments with the perimeter block, as opposed to the 'open composition' as introduced in the Netherlands before and after the Second World War. These proposals basically paved the road for experiments in the 1990s, such as the KNSM-eiland in Amsterdam, where Kollhoff introduced the urban block as 'Großform'.

To complete the panorama, in the field of landscape architecture it is worth mentioning the work of Clemens Steenbergen at the

Technische Universiteit Delft. Thanks to his efforts, the knowledge legacy developed by students in the field of architecture and urbanism in the 1980s is evident in the attempt to redefine the architecture of the garden and the landscape within the renewed analytical approach in landscape design. In this respect the book *Architecture and landscape*, co-edited in 1996 with Wouter Reh (Steenbergen and Reh, 1996), is an interesting example of projecting urban form into the dimension of the landscape. However, despite the impact of the book, Steenbergen did not succeed in establishing a critical legacy in the design of the Dutch landscape. The problem with landscape architects is that they tend to emphasize drawing, not translating the technical aspect of land reclamation into a cultural reflection of the territory (Reh, 1996). Regarding Dutch landscape, Simon Schama's popular books also help to clarify the Dutch mentality (Schama, 1988). An attempt to systematize morphological approaches in the Netherlands is available in 'Stadsmorfologie, een proeve van vormgericht onderzoek ten behoeve van stedenbouwhistorisch onderzoek' (Koster, 2001).

## Conclusion

Both aspirations and opportunities have played a part in the growth of interest in urban morphology and building typology in the Netherlands. In the case of the former, the theoretical legacy of the Italian intellectual criticism of modernity was important, notably in Tafuri's *Progetto e utopia*. As far as the latter is concerned, the influence of Dutch culture has been important: its pragmatism, once deprived of any ideological premise, heavily affected the transformation of the city during the 'post-industrial' phase. Especially relevant was the deep concern about planning practice as it existed in the 1960s and 1970s. That practice led to the production of an excess of cheap social housing in cities while, paradoxically, the number of inhabitants in the major cities was decreasing. In addition, housing for higher income residents was in

short supply, which meant that municipalities failed to receive sufficient tax income to maintain existing levels of urban amenity.

These circumstances demanded a clear policy. The new brief entailed more expensive housing at higher density near to city centres and ‘densification’ of existing tissue, to counteract the previous phase of dispersal of people and opportunities. Density studies, income calculations and the creation of consensus were all needed. The political programme changed and the architect’s task was to reformulate the design brief and produce comprehensive and consistent proposals. The new approach required new instruments. A great number of ‘density’ studies were produced. Dutch architects became renowned for combining qualitative and quantitative approaches. Many important studies on this subject have been published (see, for example, Bergerhauser Pont and Haupt, 2010). In fact this combined approach was still evident during the decades that followed, lasting until the recent economic-financial crisis.

These practical considerations have recently been added to by discussions within ISUF. Many researchers within ISUF prefer analytical methods of investigation while in the Netherlands design practice remains the main priority. In addition, the influence of the Italian legacy remains significant. Looking back, it is evident that Rossi played a leading role, and the position and influence of Muratori, which was known before ISUF came into being, should not be underestimated. However, while the Muratorian perspective was that the ‘design solution’ would follow from analysis of existing urban form, emphasizing that this would provide the key to development and change, in the Dutch perception of urban form and building type, influenced by Rossi’s work, analysis and design act as different categories. More precisely, analysis determines the field and framework in which the Dutch architect formulates the brief. Whereas Muratori considers the city as a continuum, Rossi understands it as a fragile composition and an unstable battlefield of varying competing initiatives, and therefore as a political artifact.

Today Dutch and Italian practices differ in the way that political choices are made. In the Netherlands, it seems that architectural criticism does not affect the political sphere, since the latter is concerned with the technical level of local municipalities, developers and architects. In Italy the autonomous value of the architectural proposal is understood as part of the political debate even if, paradoxically, it does not affect it. In fact, it is evident that to establish a prominent position as an architect in Italy one needs to come up with an original theoretical architectural position and programme, as in the case of Rossi’s *Tendenza* (Bonfanti *et al.*, 1973) or Giancarlo de Carlo’s *Participation* (De Carlo, 1973). In due course it has become important for an Italian architect to associate his position with congenial political parties, knowing that this association will remain at the level of pure ‘representation’ of political struggle without interfering with actual developments.

For different reasons, including different degrees of political awareness, the belief that architecture as a physical dimension of planning and building should or could be part of the public debate seems to be an aspect of idealism in both the Netherlands and Italy. However, disenchantment of the former Dutch epigones of urban morphology came at the end of the 1980s and the beginning of the 1990s. At that point it was already clear that the rational foundation of architecture was no longer an ideological possibility, but ultimately a disciplinary one. This is why Koolhaas – who is able to reduce the urban problematic to operational pragmatism – is often mentioned as the antagonist of Rossi. This also explains how, as *AIR* tried and partly succeeded, Dutch architects continue to act coherently with regard to the initial assumptions of the discipline, once deprived of its original political claims.

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## ISUF Conference 2016: Urban morphology and the resilient city

The Twenty-Third International Seminar on Urban Form (ISUF 2016), hosted by the School of Architecture and Urban Planning, Nanjing University, will take place in Nanjing, China, from 8 to 10 July 2016. The theme of the conference is 'Urban morphology and the resilient city'. Topics to be covered include:

- Urban morphological theory
- Urban morphology and urban design/planning
- Urban form, society and technology
- The fringe-belt concept
- Urban morphology, sustainability, and climate change
- Transformation and resilience in urban development
- Urban form in the global era
- Urban form in Asia
- East and West: similarities and contrasts

Post-conference excursions include short excursions in Nanjing (the Confucius Temple, Dr. Sun

Yat-sen's Mausoleum, and the Presidential Palace) and a two-day excursion to the historical city of Suzhou.

Nanjing was one of the earliest established cities in China. It first became a capital in 229 CE, and it has continued to be a prominent place in Chinese history and culture. It is recognized as one of the Four Great Ancient Capitals of China. As the capital of the Ming Empire, Nanjing was the largest city in the world from 1358 to 1425. Legacies from that period include the longest city wall in the world, 21 km of which still exist. In 1912, Nanjing was selected as the capital of the Republic of China and became the national centre for modernization. It remains a national centre of education, research, transport networks and tourism as well as the second-largest commercial centre in the East China region after Shanghai.

More information is available on the conference website (<http://urbanform.cn>).



Nanjing from the 'roadway' that runs along the top of its massive Ming city wall.

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