48 URBAN DESIGN METHODS

JOHN WESTRIK

The subject of this Chapter is the development of urban design following design methods: design methods specifically addressing the design problems manifesting themselves in a design in urban architecture. Before focusing on the methods themselves some consideration is devoted to what a design in urban architecture is and what the elements are of a design in urban architecture.

A design in urbanism is understood to be a spatial proposal comprising a number of usually multi-functional projects and a system of public spaces for an urban area, like the inner city or its important parts, areas of re-structuring – harbours, railway emplacements, industrial areas – entire residential neighbourhoods and industrial locations. Making large buildings fit their environment or articulating the site for residential complexes is part of a design in urban architecture.[a]

48.1 URBAN DESIGN

Urbanism is more than just designing (the making of plans for building in cities). Planning and technology play a significant rôle as well. In the book *'Stedebouwkundige Ontwerpmethoden'* [b] urbanism is divided into three segments with different methods for each of them. The first addresses the functional-technical segment. Rittel and Webber[c] call it 'tame-problems': that is to say problems with clear explanations and viable solutions. 'Functional' relates then to the spatial consequences of the programme (destination, density, mutual relations of the destinations, etc.), while 'technical' relates to the potential for execution (site preparation, roads, sewage, bridges, etc.).

The second segment has to do with the making of plans (the process) and addresses decision making, participation and feasibility (practicability). In that case evaluation of the plan on financial, social, legal and environmental technical feasibility is addressed. Rittel and Webber call it 'wicked-problems': that is to say socio-political problems, lacking generally consensus in a pluralistic society. This consensus should still be attained for each plan.

The third segment relates to the content of an urban architectural plan and the way in which its content comes into being (designing / ordering). The methods available for this third segment are the subject of this Chapter; those for the remaining two will not be discussed here.[d]

48.2 DESIGN IN URBAN ARCHITECTURE

According to Heeling[e] designing = planning + establishing form. However, ordering is also viable without establishing form. In that case functional ordering, plans for spatial ordering, is the topic. With a functional planning the way in which the programme is allocated to the location stands central. Planning insolubly linked to establishing form, that is designing, leads to a formal ordering: a design (in urbanism). As mentioned, the content stands central here; that is to say, what are the components discerned, and how are these components assembled into a spatial composition? 'Components' are understood here to be the means of design in urban architecture, like site articulations, the closed building block, building in lengths. Not only the means of design chosen are important in a design, but also the way in which these means have been put together. Generally a (form) concept is used to get to such a formal ordering.

A form concept is understood to be a consistent package of design ideas containing the main structure of a design. The form concept used is influenced to an important degree by the specific properties of the situation; as well as the way in which the programme requested is spatially translated in the various means of design and the inter-connections resulting from this (functional ordering). Next to the means of design employed, the form concept
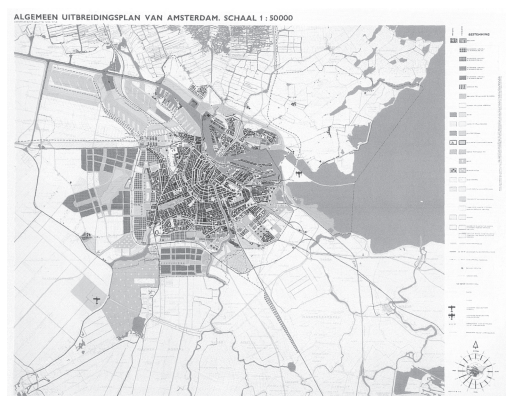
a   Boer, N.A. de (1984) *Architectuur -Stedenbouw, over tweespalt in een vakgebied.*
b   Westrik, J.A. and H. Büchi (1989) *Stedebouwkundige ontwerpmethoden.*
c   Rittel, H. and M. Webber (1971) *Dillema's in a general theory of planning.*
d   Westrik, J.A. and H. Büchi (1989) p. 41-50.
e   Heeling, J. (2001) *Een zoektocht naar de grondslagen van de Stedebouwkunde.*

Context & input assignment, designer
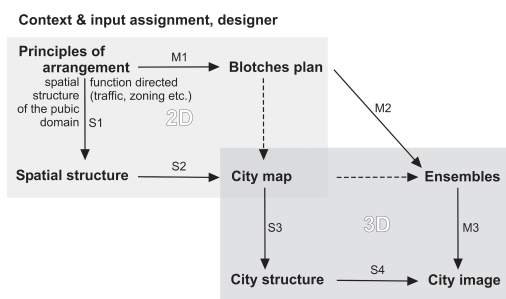
463 According to the M-line (M1-M2-M3) the map of the city needs no designing, but comes into being as resulting.

S1 = dimensioning and establishing the form of the network in the two-dimensional plane

S2 = organising the location (programme of the network and programme of the building commission)

S3 = design of the public space + formulation of rules for building

S4 = the use within the urban structure determines the urban image

M1 = urban functions allocation on basis of the programme (for network and building commission)

M3 = the use within ensembles determines the urban image

464 AUP: General Expansion Plan Amsterdam; Map A, survey of all types of usage

465 'Blotches' plan

466 Grachtengordel Amsterdam, de Amstel[a]

a   Duncan, F., L. Glass et al. (1993) *Amsterdam: the comprehensive street-by-street guide with bird's-eye-view mapping.*

and the spatial translation of the programme the way in which the individual properties of the situation have been assimilated in the design in urban architecture is important.

Finally, it should be noted that the content of a design in urban architecture is often built in several design levels, where each level meets its specific design problems. They must be solved with different kinds of means of design. Fitting together the various levels of design to one design is an essence of design in urbanism. Ultimately, if a design in urbanism is involved, a designed urban image emerges. This Chapter addresses the specific rôle of urbanism and the design methods employed. The design products requested may shape this rôle. Three possibilities, where the urban architectural plan is employed in three different ways, leading to an urban image are discussed here.

48.3   FUNCTIONAL PLANNING

The urban image can be designed by a functional planning ('blotches' plan) made by the urbanist, followed by specific designs for blotches in various architectonic ensembles. The map of the city is not designed, but results as it were (in figure 463 the M-line). This procedure is characteristic for the urbanism of the functionalists. A memorable example of this urban architecture is the AUP. of Amsterdam by van Eesteren.

In The Netherlands legislation for spatial ordering – WRO – pre-supposes this way of thinking with for planning instruments the global plan of destination ('blotches' plan), structure plan and regional plan Expressing the programme in terms of destinations plays a main rôle and generally results in separate spatial units based on the programme to be realised.

48.3   STRUCTURAL DESIGN

The second possibility, structural design, recently put into words by Heeling, distinguishes for the urban design four themes, to wit:

- the spatial functional organisation of the city;
- the design of the urban ground plan;
- the design and filling-in of public space;
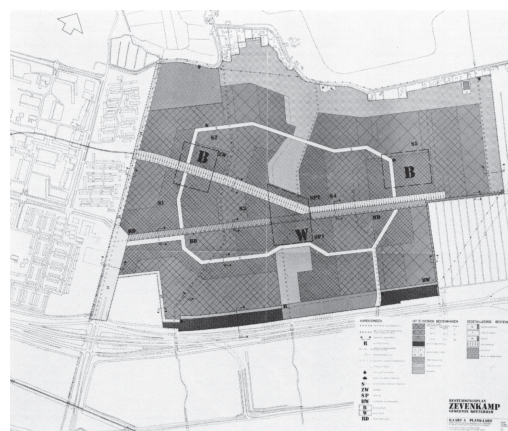- the rules for building.

This possibility acknowledges the autonomous position of the designer in urban architecture and provides to him/ her an conditioning position in the origination of the urban image, particularly by introducing the design of the map of the city as an independent design product. The spatial functional organisation (programme utilisation) is implicitly assimilated in the design of the groundplan of the city.

The design and filling-in of public space is the next step of the design of the ground plan of the city. It is the subsequent working-out of the system of public spaces establishing the network of the groundplan of the city.

The rules for constructing and building are the conditions put to the buildings to be designed by the groundplan of the city; the architectonic tasks. The girdle of the Amsterdam canals provides a historical example of this way of thinking. A recent example is the urban design for the Java island in the Eastern harbour area in Amsterdam. This way of thinking pre-supposes an open system in which the boundaries of the task are generated by the situation, or lacking in the whole.

48.5 THE DESIGN OF THE URBAN IMAGE.

At the third possibility the urban image is designed directly in its entirety. The design is a mix of city building and architecture (architecture of the city). Generally the architect takes the part of urban design into account. The building designed (the architectonic unity) is also the urban unity. Berlage's 'Plan-Zuid' for Amsterdam is a historical example of this case.

Recent examples include the designs by Coenen for the 'Céramique' site, Maastricht, and by Bhalotra for the 'Kattenbroek' neighbourhood in Amersfoort. Also in these cases the design has been designed as a separate unity, its image included.

As befits this age, combinations of these three possibilities manifest themselves, termed 'hybrid' in contemporary parlance.[a] The urban architectural plan for Borneo-Sporenburg, in which the urban building blocks have been designed directly as an image and the 'strips' for urban units of the urban groundplan is an example; another is the urban design Ypenburg, in which on one side a design for the ground plan of the city (the frame-work) is made for the entire area and on the other side for each field a separate further detailing.

The question emerges on what grounds this kind of motifs among the three possibilities is used. In this Chapter it suffices to state that the task as commissioned, as well as the design concept of the designer, might provide a motif for selecting one out of three possibilities.

467 Aerial photograph of 'Plan-Zuid', eastern part, Amsterdam

48.6 THE URBAN TASK

The commissioner not only formulates the commission, but also determines who is going to make the plan. The commission generally comprises: a programme, boundaries to the plan, and limits to the plan, as well as the design product to be expected. This means that the commissioner for whatever reason (flexibility, size of the planning area, real estate property, staging in time) influences implicitly which possibility – out of three – will be applied. The size of the planning area plays an important rôle in this, as well as the dominance of the next higher level of scale: what elements are almost pre-supposed, such as matching main thoroughfares, ecological main structure, etc. The various levels of scale as they have been integrated into an integral design commission – for instance the 'Zuid-as' in Amsterdam – also imports. All these factors influence the design product to be delivered. Finally it may be the designer himself/ herself who applies one of the possibilities.

48.7 FUNCTION OF THE URBAN DESIGN

In the previous paragraph it was explained that the commissioner has great influence on the design process. In this it is of eminent importance for which purpose the design is made. A design in urbanism is mainly used in favour of a plan of spatial planning, in the case of the Netherlands based spatial planning regulation (destination plan and structure plan).

Under such conditions urbanism finds itself caught between two poles: the one determined by planning, procedures, decision making and processes to be governed; the other by a discipline of designing still akin to architecture.[b] Van der Voort thinks that the practice of contemporary building of cities in his country is increasingly making use of types of planning, regardless of Legislation and the Decision as to spatial planning: urban plans, master plans, like, for instance, the plan for the 'Kop van Zuid', Rotterdam, or the one for IJburg, Amsterdam.[c]
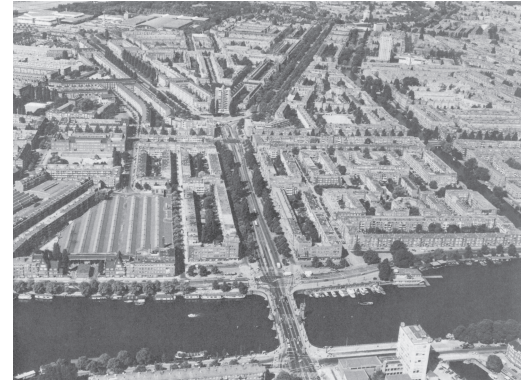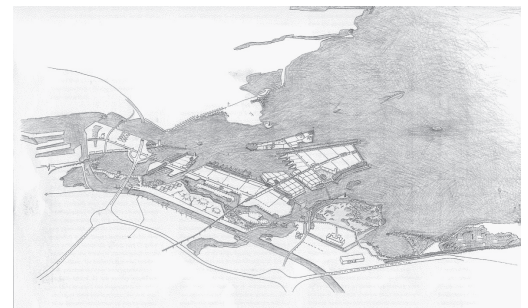
468 IJburg

a   Meyer, H. (2000) *'Hybridisatie' van stedelijke gebieden.*
b   Vink, H. (1980) *Geen stedenbouw zonder architectuur.*
c   Voort, R.Th. van der (1988) *Stedenbouw in de jaren '80, ruimtelijke kwaliteit onderzocht.*

This kind of 'planning figures' is required in order to distinguish neatly from one another, as they are, spatial qualities like elements determining structure; such as articulations of surfaces, types of buildings, rise of them, as well as the system of public spaces linked to situative, programmatic, (civil)technical and financial boundary conditions. Urban design has become, in cases like these, an autonomous product, used in order to influence public opinion and mobilise financial resources. Next to a planning function, the design of urbanism has come to embody a communicative function. Meyer and Reyndorp[a] remark, that this type of design does not result, in the strict sense of the word, in urban plans; and certainly not in those with the legislative nature associated with them until recently: more likely than not ideas, speaking to the imagination, creating the possibilities for an era dedicated to a 'New Urbanity'. Also, the frequently occurring pluriform urban architectural commissions[b] envisage to draw attention to certain urban areas and to indicate which future developments are possible through spatial proposals and which contribution to the urban image as a whole is provided. It results in a situation in which the urban design is severed from spatial planning.

This severing serves to give the design next to its communicative function a studying function as well.[c] This study focuses on the consequences of the design decisions taken. They determine the content of a design in urbanism. They include in any case the means of design previously mentioned, like the elements determining structure, site articulations and the system of public spaces, but also study by design, interested in the consistency of the design, the (form) concept employed and the characteristics of the situation itself, as well as the position of the situation in the urban area surrounding it. This study by design is a type of study that differs greatly from the study performed in the 'plan' function of a design (design study); under those circumstances the study of programmatic and technical possibilities and financial and political feasibility gets more emphasis. In addition this study by design may be focused on the designing process and the design methods possibly employed.

48.8 DESIGN METHODS

This paragraph deals with methods determining the content of a design in urbanism, or influencing it. Büchi and Westrik describe nine design methods and a number of aspects determining content, to wit: the spatial translation and ordering of the programme (functional planning); the interpretation of the present situation serving the design; the design components chosen; as well as the form concept used (the formal ordering). The way in which the functional planning is allocated in the formal design plays an important rôle.

48.9 THE NEED FOR DESIGN METHODS IN URBANISM

The need to study design methods in urbanism is derived from an effort to make private thinking and acting of people associated with architectural design, especially designers of urban architecture, public. The use of design methods sees to it that the urban designs developed this way can be readily studied and discussed. The use of design methods also favours transfer, clarity and verification of designs. In addition, Jones thinks that the beneficial effects of the use of the design methods described earlier include that the designers are obliged to look beyond their immediate need for apparently relevant information and to suppress the inclination to adopt and cuddle the first idea surfacing.[d] In addition to these arguments pleading the case for the use of design methods the following ones could be mentioned:

- the use of design methods contributes to systematic design and process;
- since it is known beforehand which steps and design elements will be used;
- applying design methods enables and favours co-operation between those who face together the task of finding spatial solutions;
- applying design methods necessitates study by design: this may focus on the design itself, as well as on the further development of the design method;

a   Meyer, H. and A. Reyndorp (1988) *Stedenbouwkunde, een nieuwe stedelijkheid.*
b   Heeling, J. (1988) *Meervoudige opdrachten kritisch beschouwd.*
c   Pasveer, E. (1988) *Planvorming Kop van Zuid te Rotterdam.*
d   Jones, J.C. (1970) *Design methods: seeds of human futures.*

- applying design methods leads to a consistent (balanced) design of urbanism;
- the use of design methods enables the development of a design in which the link between well-formulated points of departure and the spatial solutions is rendered as clearly as possible.

48.10 WHAT IS A (DESIGN) METHOD?

A method is a fixed way of acting, well thought out, in order to attain a certain aim.[a] Methods are systemic procedures to attain formulated aims, means to deal with a certain type of problem with a certain degree of success. Methods reflect experience assimilated in the past. A method is not the specific knowledge of an individual, but may be shared and applied by others.[b]

Design methods in urbanism are methods regarding the content of a design in urbanism; that is to say: design elements and the way in which, with these elements, a design in urbanism is developed. In the development of urban architectural plans, other groups than this design group are used. These methods may indirectly influence a design in urbanism; however they have not been developed especially for determining the content.

Design methods do not just reflect past experience, but might as well be based on the results of a study by design. The design of urbanism and the design method, in their mutually relating, are then the object of study; as there are typological/ morphological studies; studies of (form) concepts; spatial structures, urban images and the process underlying a design.

48.11 APPLYING A DESIGN METHOD

A no-nonsense application of design methods is treacherous. De Boer says on employing methods:

"It is just as dangerous to over-value methods as to underestimate, or reject them. A satisfactory urban plan, or more generally, a plan in spatial planning, never results exclusively from the application of method alone. Creativity, and the power to imagine and invent are required; as well as a sense and insight regarding what is social. There is no reason why methods should be a unique blessing; nor why they should be dismissed as an aid."[c]

In order to prevent mindless application of (design) methods some points apply:

- design methods should never be used unless knowledge of underlying thought is taken into account;
- generally a design method can only be used for one aspect of the design problem;
- design methods do not feature a well-defined outline, applicable in any situation; according to the specific design problem one should strive towards an approach befitting the situation;
- employing design methods should not benefit exclusively the position of the user of the method;
- the selection for the application of a specific design method establishes the contours of the design solution. The design method itself does not provide for the creative filling in of these contours;
- applying design methods does not result necessarily in the 'quality' of the design;
- the 'quality' of a design in urbanism is depending on the insight, knowledge and capability of the designer employing the design method.

48.12 DESIGN METHOD – DESIGN ASSESSMENT

Each and every designer entertains personal ideas and theories concerning design; they influence them greatly. Brandes distinguishes in a study on the filling-in of newly built residential areas the design concepts mentioned into four main streams: functional, experimental, ecological and decisional.[d] According to her, the main difference between these streams stems from what is stated in a design primarily, with what ideas the first lines or words have been

a Dale, J.H. van, G. Geerts et al. (1989) *Groot Woordenboek der Nederlandse Taal, 11e druk*.
b Bergman, H. (1978) *Ontwerpmethoden op bestemmingsplanniveau*, p. 78.
c Boer, N.A. de (1982) *Planvorming in de ruimtelijke ordening*.
d Brandes, E. (1980) *De stedenbouwkundige inrichting van nieuwbouwwijken*.

put to paper; what (form) concept has been developed, which means of design have been introduced, and the way in which the existing situation is interpreted. A first idea like that determines the initiation of the design. The way of working, the design process, is strongly influenced by these first thoughts as well. Applying a design method, consciously or not, is part and parcel of specific considerations of a designer. By opting for a deliberately chosen design method affinity with design theory, respectively design concept, underlying the design method is expressed. It may suffice here to mention the underlying thought per method described. No stance is taken *vis-à-vis* the several design concepts/ theories on which the design methods are based.

Westrik and Büchi give a survey, based on some concepts of importance for design in urbanism, how the several design methods are received.[a]

Foqué gives insight into the method-theory:

"A method as such is a description by means of language. Inherent in each description is reduction of experience; what is beyond spoken language evades it. A method is not value-free. It produces its very restrictions, influencing this way the result. The underlying value pattern of the method, the so-called theory, is reproduced. In fact, designing is a process of transformation of the facts of life to what is native to design. Continuously, the designer orders facts specifically, particularly according to the possibilities to be able to execute within this ordering his designing activity; starting from his personal design language and addressing it. In practice, order is constructed by itself, and not by theory! The designer will have to state by himself what the operational limits are of the design method used, while any method is a certain, but also limited, way to take a stance vis-à-vis a design problem." [b]

48.13 CONSISTENT DESIGN

'Consistent' means here that also those aspects are considered in the design that are not mutually exclusive and do not overlap, but who support and complement one another. The following aspects are concerned:

- a tuning of formal and functional ordering;
- a functional ordering based on a spatial translation of the programme, in which the relations between the various functions have been tuned to one another (opportunity to live and to work, connections and facilities;
- a formal ordering, comprising:
- a (form) concept, a consistent package of design ideas,
- an ordering with the means of design employed, and
- the ways in which the existing characteristics of the area have been acknowledged in the design
- tuning and connections between the various levels of the design with their specific design problems;
- the potential for execution within the urban design.[c]

In the next three paragraphs design methods are ranked according to their contributions to the three possibilities how a plan in urban architecture can be made: the 'blotches' plan, the map of the city and the city image.

48.14 'BLOTCHES' PLAN

In the case of a functional planning the spatial translation of the programme is the central issue. Generally this happens by way of a model-like approach. Lynch[d] discerns several kinds of (urban) models; like city shape models, (hierarchical) models of facilities, density models and traffic models. The 'early' work of Alexander also departs from a model-like approach in order to achieve a functional ordering.[e] From the functional angle it is often tried to head towards a spatial differentiation. Programmatic differentiation is a new development and is

a   Westrik, J.A. and H. Büchi (1989) *Stedebouwkundige ont-werpmethoden.*
b   Foqué (1976) *Zin en onzin, verslag van 9 gastlezingen aan de afdeling Bouwkunde, TH-Delft.*
c   This urban architectural design was never executed as such. The execution is taking place through building plans and installation plans for public space.
d   Lynch, K. (1985) *A theory of good city form*, appendix D, p. 453-455
e   Alexander, C. (1964) *Notes on the synthesis of form.*

employed, amongst others, in the plan 'Leidsche Rijn' in Utrecht. As mentioned in paragraph 1, rather planning methods than design methods are involved.

De Boer developed a basic site articulation in order to realise an urban image for the blotches in an early stage.[a] The same applies for the well-known *'stempel-verkavelingen'* applied amongst others in Pendrecht and Frankendael. Presently this kind of blotches like fields are being worked out in an architectonic emsemble (GWL area in Amsterdam)

48.15 THE MAP OF THE CITY
The spatial composition and the design components required for it are the central problem. Allocating the programme within this composition is a related problem. The components are often determined by a typological approach. Types *vis-à-vis* public space are then concerned (standard profiles and islands/ fields of the areas to be built) in which the mutual relation and scaling play an important rôle. Heeling is one of the people asking for attention for this composition problem.[b] Marks and Hinse developed a design method for integration of properties of the area, the programme and the composition.[c]

In current practice the design of the map of the city often carries the name 'Master Plan' ('Kop van Zuid', Rotterdam, 'Zuid-as' Amsterdam), where the position in the city and accessibility are the most important considerations for the design.

48.16 THE CITY IMAGE
Well-known design methods intending to arrive at an image of the city have been made by designers like Cullen (Townscape)[d] and Alexander (Pattern language).[e] The city analysis by Lynch (Image of the City)[f] has become a classic and is often used as a basis for a design method. In the Dutch situation the 'Pattern method' of the SAR tried to achieve a global (preliminary) image of the city starting from a built space typology. Current practice is aiming at unique images of the city without applying a specific method; for instance the 'Céramique' location in Maastricht (fig 471). The images might be based on metaphors (Bhalotra, Kattenbroek in Amersfoort); on motifs of sustainability and environmental concerns (Duyvesteijn, 'DE Wijk' in Tilburg, see page 313) or by considering the city as a complex of buildings (Koolhaas, centre Almere).

48.17 PRIMACY OF FORM OR FUNCTION
Summarising, a threefold division can be made with regard to the question how methods deal with connectedness:

- methods with an emphasis on formal design: Form concept, Basic Articulations, SAR-pattern method, Method Lynch, Townscape;
- methods solely addressing functional planning: decomposition method
- methods combining the functional and formal design: Environmental differentiation, Three Traces method, Pattern Language

48.18 SYSTEMATIC OF THE PROCESS
The systematic intended here particularly concerns the way in which a consistent design comes into being. In order to systemise the design process one often is basing oneself on the notions model, type and concept. A design method may result from a method of analysis for urban architecture (for instance the method Lynch, Townscape). It can be further developed by design analysis of design made with a method. Per method it can be indicated how and in what sequence the aspects of the preceding paragraph have been tackled.[g] Such a design study shows the applicability of design methods in a certain context. Often the method causes a certain systematic or structure in the design process. In what follows it is indicated per design method how the method influences the design process.
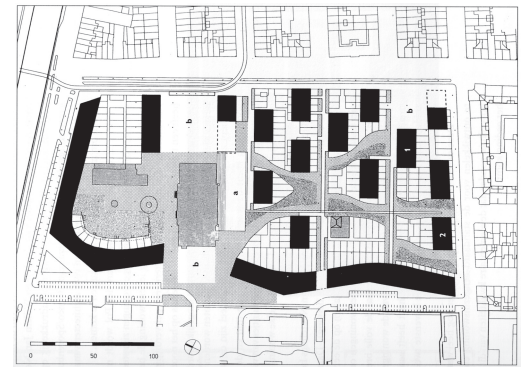
469 Surface design West 8 for the GWL area in Amsterdam. Urban plan of the Christiaanse office.


470 Urban Master Plan Kop van Zuid, 1996. City map.

471 Urban Master Plan Sphinx – Céramique site of Jo Coenen, Maastricht, 1987 Map.

a   Vliet, K. van (1989) *Systematisch ontwerpen: planvormings experiment in Emmen*.
b   Heeling, J. (1989) *Vormconcept*.
c   Hinse, T. and F. Marks (1989) *De drie-sporenmethoden*.
d   Cullen, G. (1961) *The concise townscape*. See also: Westrik, J.A. and H. Büchi (1989) *Stedebouwkundige ontwerpmethoden*, p. 259-281.
e   Alexander, C. (1977) *A pattern language*. See also: Westrik, J.A. and H. Büchi (1989) p. 283- 307.
f   Lynch, K. (1960) *The image of the city*. See also: Westrik, J.A. and H. Büchi (1989) p. 207-236.
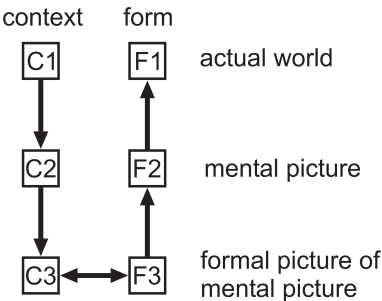g   Westrik, J.A. and H. Büchi (1989).
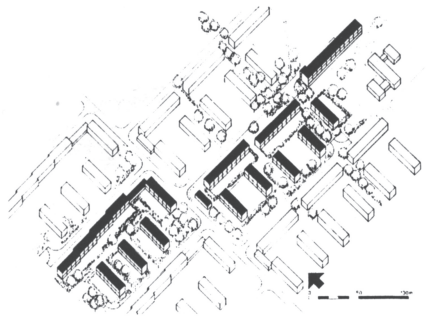
472 Basic allocation method
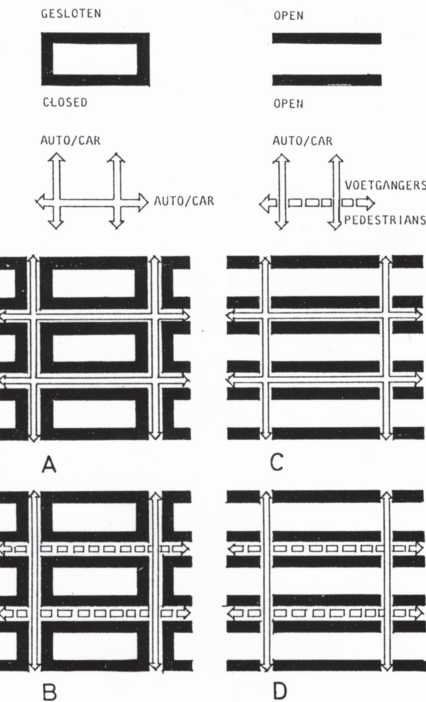
473 The SAR-pattern method

474 The Decomposition Method

475 The three-traces method

476 Form concept

context   form

C1   F1   actual world

C2   F2   mental picture

C3   F3   formal picture of
           mental picture

48.19 THE BASIC ALLOCATION METHOD

The basic allocation method puts the quality of living in the first place. For the benefit of a design in urbanism this quality aimed at is expressed in a basic articulation/ prototype. Opting for a basic articulation is always linked to historical time; that is to say to social and situational considerations. It is of importance whether a basic articulation has been developed for an area in the inner city or for an area of extension.

With the help of basic articulations one can be confronted in an early stage by a basic articulation for the entire area (tentative articulation). By this one can react to the situative and programmatic requirements with mutual adjustments in the main structure and the basic articulation. The basic articulation method should be regarded as a typological approach.

48.20 THE SAR-PATTERN METHOD

The SAR-pattern method has also been developed in order to agree in an early stage on the residential environment desired. This method departs from the pattern of the city, the recognisable combination of spaces with and without buildings and the possible margins between both. In contrast to the method 'Basic Articulations', in this method the outside space to be designed stands central in relation to the future building. It has then become possible to observe according to what rules this co-existence has come into being. On the basis of this co-existence further agreements can be made concerning the position and the size of the building and of the space. This is also an instance of a typological approach.

48.21 THE DECOMPOSITION METHOD

Functional inter-dependence is emphasised in the case of the decomposition method. An extra step is needed in the design process to get from a design problem to a design solution because of the increased complexity of the reality. This extra step involves searching for inter-dependent subsets on the basis of criteria previously formulated. Subsequently, these inter-dependent subsets may be translated into constructive diagrams that may serve as constituent elements for the mental picture (the design) of the shape to be developed later; a modelling kind of approach.

48.22 THE THREE-TRACES METHOD

The three-traces method features three design paths. One of them aims at function, one at composition and one at topography. Under topography is understood the whole of the manifold visible and invisible data determining together the structure of the landscape and its future development. Crucial in this design method is that the three paths are developed as autonomously as possible, although synchronously. In all three paths the concept 'pattern' plays a rôle. This dichotomy autonomous – synchronous is chosen in order to link a design process that is as clarifying and controllable as possible to a balanced plan development.

48.23 FORM CONCEPT

The notion 'form concept' should not be regarded as a method as such, but as a methodological tool to indicate in an early stage of the design process which ideas are decisive for the spatial inter-dependence of a design. A design cannot possibly be thought out in its entirety in one fell sweep. The design problems are too complex for that; a form concept can assist in
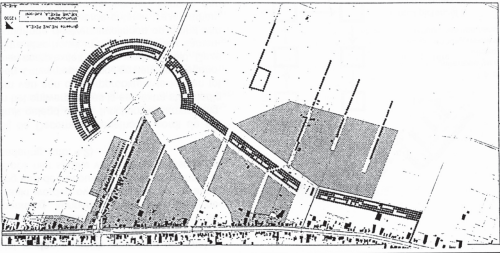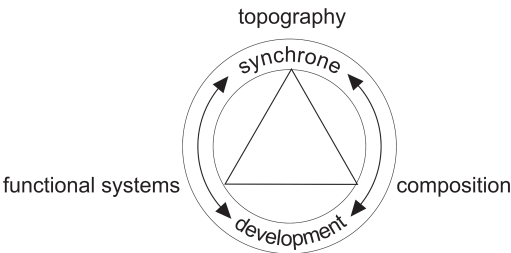
dealing with this. The concepts developed differ in each commission and in each situation. Depending on the prevailing points of connection with the existing situation the concept can be based on this to a higher or lower degree. One can also look for points of connection not based on the existing situation, but for other connecting elements, as there are analogies or metaphors.

48.24 THE METHOD LYNCH

The method Lynch departs from the urban image and the way it is experienced collectively. The spatial quality of that urban image is expressed in the 'legibility' of the city: the ease with which the city may be recognised in its parts and put together by its user to an inter-dependent whole. If the method Lynch is used as a design method, a spatial structure is developed with regard to the design elements determining the urban image: routes, edges, areas, connections and landmarks.

477 The method Lynch

48.25 THE ENVIRONMENT DIFFERENTIATION METHOD

In this case 'structure' is understood to be the hole of distinguishable parts and elements sharing perceptibly an inter-dependence. The notion of structure also plays an important rôle in environment differentiation, but structure is here also seen as an intermediary between form and function (the abstract notion of the spatial reality). Next to the aspects form, function and structure the aspects 'content' (what varies; the variables) and 'intent' (the objectives) are distinguished. A concrete structure exists (the way in which constituent parts make for one area) and an abstract structure (the way in which constituent variables make for a model). Added to these five aspects is a classification in scale levels.

Each scale level has its own design variables enabling environment differentiation recognition on the level of the residence, but also on the level of the neighbourhood, city, region, or country as a whole. Spatial structuring is especially important in a design: separation of (environmental) variables irreconcilable between one another, and connection of (environmental) variables supporting one another. The structure is then a tool with which a designer influences function and form without determining them. It is the first step in a design process and it has a modelling character.
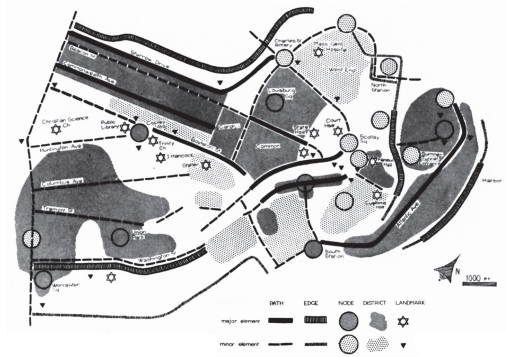

478 Environment differentiation

48.26 TOWNSCAPE

Townscape departs from the urban image as a factor generating a plan, but also from the image of the village and the landscape. This results in translation of neutral design schemes in comprehensible three-dimensional environments.

Individual design elements are worked into a composition. According to Cullen, the urban image is experienced by the spectator emotionally in three ways, viz.:

- the sequence of images resulting from movement: 'serial vision'
- the place, experience of the here and now
- the content, the intrinsic quality of the objects of the environment in their context

While analysing and designing urban environments Cullen uses in addition to the points mentioned in the above a frame of communication that can be regarded as a checklist. By translating the notions occurring in this frame (structure, route, space, place, element and orientation) into well-considered design elements, this pre-supposes preceding studying and making explicit the spatial significance of these notions. In this, properties of the situation may serve as guides. The existing situation is made expressive in the putting together of these design elements into a composition. The design elements achieve by their mutually weighed positions in this composition a visualising significance. Emphasising experiential qualities favours communication between the environment and the spectator: a communication can be visualised already during the design process, as a design tool. Drawings in perspective are eminently fit for making the mutual communication comprehensible.
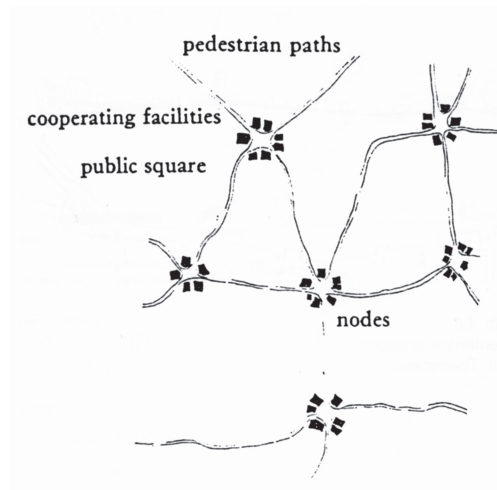

479 Townscape

pedestrian paths

cooperating facilities

public square

nodes
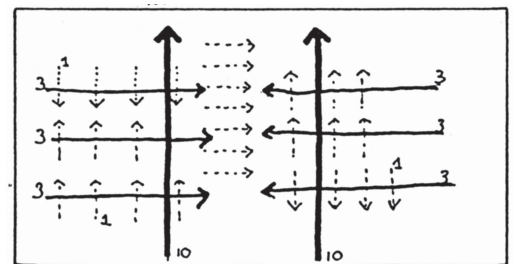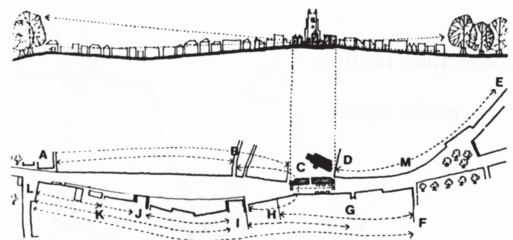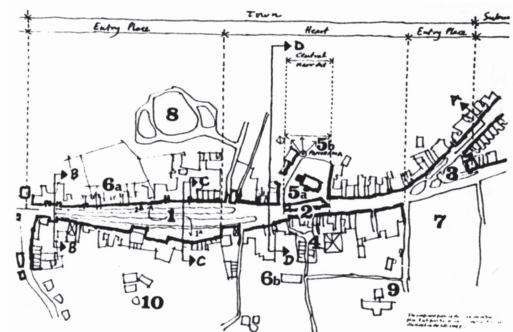
480 Pattern language

48.27 PATTERN LANGUAGE

Pattern language can be regarded as an instrument, a utensil, a language allowing everybody to design by himself and together with other people. It comprises design directives for cities, neighbourhoods, residences, rooms and also the basic construction of minor building commissions. The elements of the (design) language are the patterns.

A pattern describes a design problem. It indicates essentials of the requirements put to the solution of a problem. A pattern may be applied any number of times without leading necessarily to the same result twice. The relation between the patterns is not linear; between the various levels and within the levels a wealth of connections is possible. A pattern does not lead to a design. However, it indicates in a general and abstract way which essential conditions should be taken into account. The designer must make the design himself, while he / she may / should be guided by personal ideas, experience and by specific local circumstances. Actually, patterns are 'hypothetical' and give an exact number of possible essential properties and processes of and within our environment. Pattern language is a typological approach.