

Focussing on the Use Value -The Relevance of Urban and Regional Design for Society

ABSTRACT

'Connected Cities' is the theme of the recently published *New Charter of Athens*. Clarity is needed about the role urban and regional designers should play in bringing this connectivity about. Opinions about the relevance of urban and regional design for society differ, resulting in different design approaches. By looking at urban areas as systems it becomes clear that designers can either take the view that the physical urban system is an autonomous system; this results in transformation-oriented design. These designers see as their task the creation of experiential value based on a quantitative schedule of requirements – a view related to the 'old' Charter of Athens. Others view the physical urban system as an inextricable component of the urban system as a whole, emphasizing the use value, viewing experiential value as complementary: societal-processes-directed design. The later view is in line with the New Charter. This approach needs to be further developed.

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INTRODUCTION

The European Council of Town Planners state in *The New Charter of Athens* published in 2003, that the focus for the 21st century should be on the 'Connected City'. As the basic problem with our existing cities they view 'the lack of connectivity, not only in physical terms, but also in relation to time, social structures and cultural differences', stressing in this respect also continuity in identity (page 2). The contribution of urban designers in achieving these connected cities they formulate as follows: 'The spatial organisation of the connected city will include a full integration of transportation and town planning policies. They will be complemented with urban design and easier access to information (-)' (page 5). The notion 'complementing' doesn't make the contribution very clear; neither do the next pages in the document. This raises the question of what urban – and regional - designers can and should contribute to the well being of those who live, work, recreate in urbanized areas. What, in other words, is the relevance of urban – and regional – design for society? And what follows from an answer to this question for the way urban and regional designers can and should contribute to the cities of the 21st century? This paper addresses these questions.

PHYSICAL URBAN SYSTEMS AND THEIR SOCIETAL FUNCTIONS

If we perceive urbanized regions, cities, city districts, neighbourhoods etc. as systems, we can within these open urban systems distinguish physical urban systems (sub-systems). These physical urban systems are made up of spatial elements (objects) such as buildings, streets, parks, sewers, stations and/or configurations of spatial elements (of buildings, streets etc.) in mutually coherent combinations and in coherent combinations with natural (and possibly rural) spatial objects. They have been and are constructed or reconstructed in order to fulfil functions on behalf of the urban society: a *carrying* (or use) *function* and an *information function*; they impose long-term conditions on the opportunities people have to organize their life in spatial respects. These physical urban systems are, generally spoken, the object of urban and regional design.

The carrying function refers to activity carriers (system elements with certain functional attributes) and to the spatial relationship between them (the functional-spatial structure). Urban society requires these spatial objects to embark on social, economic and cultural activities. The information function refers to the direction-defining, identifying, cultural and aesthetic significance of built objects – independently and/or in their mutual relations (formal-spatial structure). In addition to this it refers to information from the past and about the future [11, p.29 ff., p.90 ff.], to information that buildings and places impart about the activities to which they are dedicated, to information about safety, and to information about the natural and possibly rural system. This information is not just visual in nature, but also auditory, olfactory and/or tactile. In order to 'read' this non-verbal information, we must understand its 'language': cultural assumptions have to be shared [13, p. 11]. The terms 'use value' and 'experiential

value' have since the Roman architect Vitruvius been used to express judgements about the adequacy with which the carrying function and the information function are being fulfilled. Since changes in a urban physical system take place relatively slowly, the future use value and experiential/informative value are always relevant as well. This 'future value' requires flexibility and adaptability.

THE TWO APPROACHES TO URBAN AND REGIONAL DESIGN

On the one hand the physical urban systems are *generated* by societal activities/processes, on the other hand the physical urban systems *support* societal activities and processes - of course in a conditional sense (Figure 1)

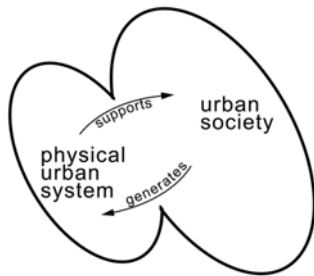


Figure 1: The physical urban system makes societal processes possible in a conditional sense. Conversely, societal processes lead to changes in and extensions to this system, and provide control over it.

Societal processes are both large-grained linear (observation grain¹: years, decades) and small-grained cyclical (observation grain: hours, days). From the viewpoint of the *generation* of physical urban systems the processes are (relatively) large-grained linear (i.e. yearly, ten-yearly), irreversible and non-rhythmical: urban and regional transformations (Figure 2). The physical urban system is viewed as an *autonomous* system, a 'product' of the social-cultural, spatial-ecological, economic-technological and administrative-organizational urban (sub)systems.

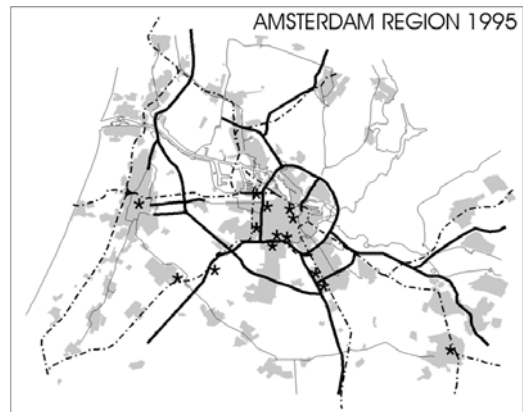


Figure 2: Example of a linearly changing process at a regional scale (transformation process)

From the viewpoint of the physical urban systems *supporting* societal processes, the processes are cyclical, small-grained, reversible and rhythmical (i.e. daily, weekly) (Figure 3). The physical urban system is inextricably linked to the urban system as a whole.

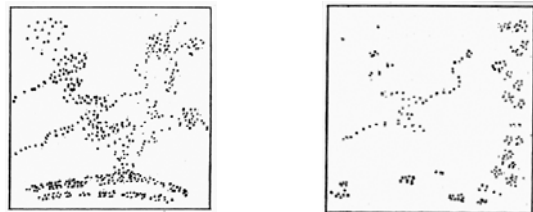


Figure 3: Intensity of use of the same urban area at differing times of day [3, p. 325].

Examples of these processes are the daily journey to work or school, routine shopping, retail stock deliveries, the supplies of water and gas, regular waste collection, weekly trips to football stadiums, annual holidays etc.

Transformation-oriented design

The majority of designers, certainly in The Netherlands, takes the 'generating' perspective. This type of design addresses the transformation of urban areas [5][15]. This pattern-oriented design approach is related to the difficulty of representing 'time' in static spatial models [8] – the main means of reflecting and communicating in design science and design practice. One way to represent time indirectly is by comparing two compositions at different times like in Figure 2.

Largely on the basis of an empirically-derived quantitative schedule of requirements such as numbers of dwellings, surface areas of industry sites, traffic volumes to be accommodated, square metres of park per household etc., a so-called mass-space plan is designed and/or a proposal is made for the spatial organization of the public domain. 'The composition of the urban ground plan'ⁱⁱ is the expression currently used for urban design in the Delft University Faculty of Architecture.

The achievement of experiential value, particularly in cultural and aesthetic respects, is a central issue. Formal concepts play an important part in this ([4, p.79 ff.]. The 'carrying function' concept does play a part in the pattern-oriented approach, but only in the limited sense of 'the carrying' of objects'. Figure 4 presents an example at a regional level.

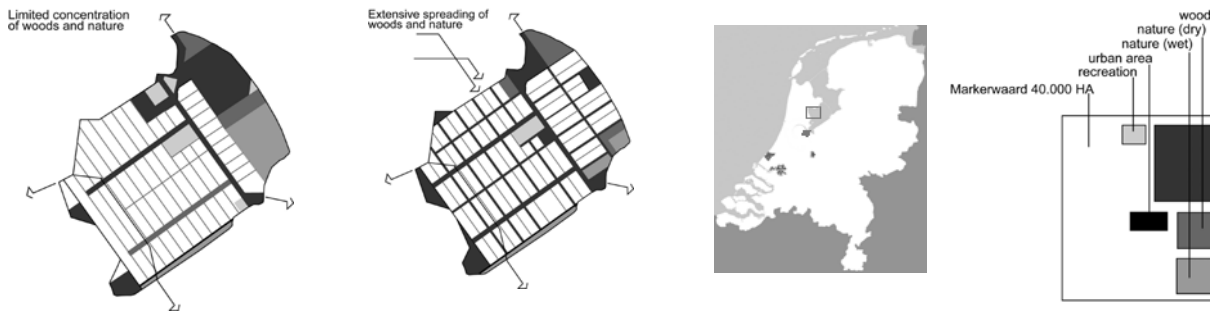


Figure 4: Examples of alternative regional designs following a pattern-oriented approach: 1983 layout proposals (by Hosper and Baljon) for the Markerwaard polder, a hitherto unreclaimed section of the IJsselmeer (after [14, p. 29]).

The needs of the users (which includes of course the inhabitants) of the urban areas are often neglected. Some examples of this will be shown at the end of this paper.

The size and boundaries of design areas are in principle arbitrary, but in practice they are determined by considerations such as the obsolescence of the original designated function (e.g. former docklands or other industrial sites), hydrological or similar 'natural' factors, land ownership, and units for which data happen to be available.

Taking into account the stress on visual design, a design of this kind will necessarily have the character of a blueprint. Everything must be under the designer's control – even the colour of the front doors in some cases. Quoting Jane Jacobs "... All the arrangements that comprise it must be in the total, absolute and unchallenged control of the project's architects." [6, p. 375]. This leaves little scope for modification, either in the implementation phase or in the period that follows. (Change does of course take place, but it is arbitrary and uncontrolled, essentials are after all not defined.)

Figure 5 shows an example of a pattern-oriented design.



Figure 5: Design for the northern part of Amsterdam (2001). The legend has been omitted.

Characteristic concepts for pattern-oriented design are

- Linear process concepts such as 'urbanization', 'suburbanization', 'agglomeration effects', 'exploding city', 'segregation', 'change of land use', 'stagnating area', 'urban renewal' etc.;
- Pattern concepts such as 'composition', 'agglomeration', 'concentration', 'spreading', 'differentiation', 'variation', 'floor space index', 'closed building block', 'long lines of sight', 'strip', 'genius loci'.

The societal-processes-oriented approach

Designing from a 'supporting' perspective (see Figure 1) the primary focus is on daily, weekly and annual cyclical processes within the urban system (and also within the natural system).

In this design approach the use function is regarded not just as providing enough activity carriers but also providing functional-spatial structures that take into account that the daily hormonally/astronomically based human 24h-biorhythm imposes requirements for the relative siting of activity carriers on the grounds of their functional attributesⁱⁱⁱ. The time people have to spare for mobility is, after all, limited (Figure 6).

Urbanized areas must be capable of accommodating a diversity of spatial activity patterns.

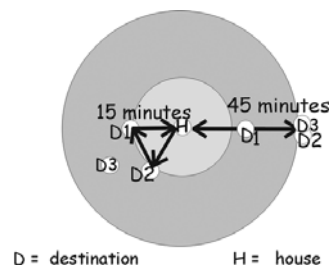


Figure 6: The principle of time-space activity zones. The amount of activities that can be carried out in the course of a single day increases along with the degree to which their 'carriers' are located in one another's vicinity or on the route.

"One of the gravest mistakes made in the study of human settlements is considering them as consisting of the container only ... and thus depriving them of the fourth dimension, time, and of their life which is expressed in functions." Doxiadis states [3, p.24]. In Kevin Lynch's words, "I will take the view that settlement form is the spatial arrangement of persons doing things, the resulting spatial flow of persons, goods, and information, and the physical features which modify space in some way significant to those actions, including enclosures, surfaces, channels, ambiances, and objects. Further, the description must include the cyclical ... changes in those spatial distributions, the control of space, and the perception of it. The last two, of course, are raids into the domains of social institutions and of mental life." [12, p.48].

Because societal processes often entail multi-link journeys (mobility chains) in which differing levels of scale are

involved (Figure 7), not only must different levels of scale be distinguished but the relation between them forms an important theme: 'hinge points' between different levels of scale ('transfer machines') (Figure 8). The presence of other facilities in those 'hinge points' than those strictly necessary to transport, enlarges the scope of potential temperospatial patterns.

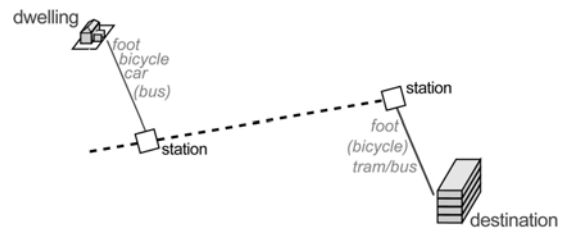


Figure 7: A typical mobility chain for someone who engages in only one activity away from home. Stations are an example of physical-system elements that are relevant at more than one level of scale.

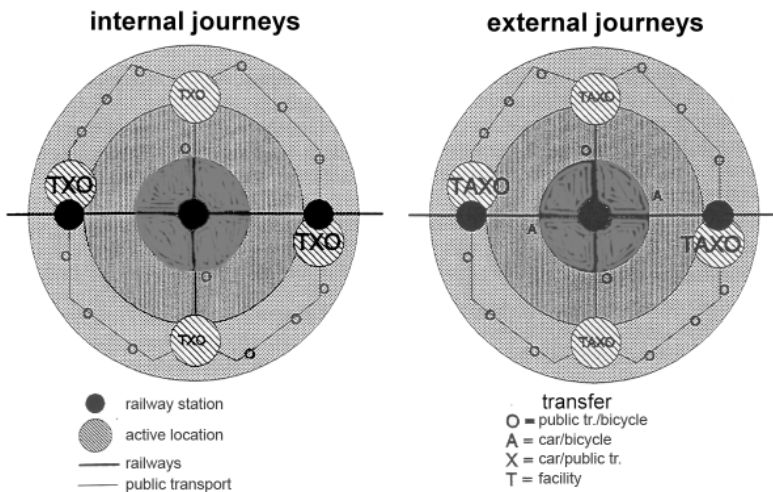


Figure 8: Model of a city with the emphasis on access and on mobility chains, from the report 'Mobilopolis' (adapted from [1, p.28]). Left, journeys within the urban area (the city as a closed system). Right, journeys to and from the city (the city as an open system).

Important components besides the functional-spatial structures are the user bases required to enable the functioning of collective institutions (Figure 9). It is not the quantity of activity carriers that is primarily relevant, but the qualitative benefits users will obtain from certain quantities in certain densities at appropriate places in the structure.

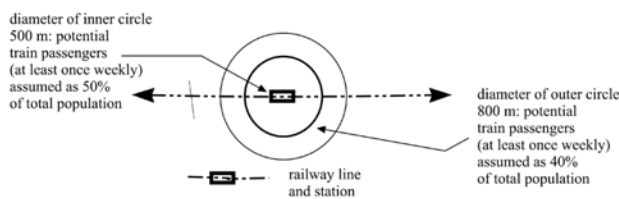


Figure 9: Principle of sufficient potential users base for a collective function, taking a train station as an example. The norms applied here are based on assumptions. Spatially, the number of stops a train makes cannot be extended beyond a certain limit.

Just as important is the support of the functional structures by relevant formal design, because in that way potentially desired processes are facilitated (Figure 10).

Societal-process-oriented design addresses such questions as 'what activities do people wish to participate in?', 'which places do they wish to reach?', 'can they get there, and under which conditions?', 'can activities be combined?', 'is there a sufficient potential user base for those activities?', 'can goods be distributed?', 'do institutions have sufficiently large

potential user bases to be capable of functioning?', 'which target groups must be able to access a given institution?', etc. A further, far from trivial, question is 'how can visual design contribute to direction-finding, identification and the creation of potential user bases?'



Figure 10: An example from Lynch showing formal design supporting functionality. "Paths may not be identifiable and continuous but have directional quality as well: one direction along a line can easily be distinguished from the reverse. This can be done by a gradient, a regular change in some quality which is cumulative in one direction."[10, p.54].

In the process-oriented approach, functions are distinguished into different kinds: individual or collective and in the latter case further according to level of scale. A distinction is moreover made between day/night functions. Besides such traditional functional concepts as the dwelling function, the employment function etc., 'eight hours', 'sixteen hours' and '24 hours' functions are distinguished^{iv}. Relevant are routes, places related to them and types of node. Due to their position in a structure, certain places acquire the possibility (positional value) of being able to fulfil a certain function.

Levels of scale are determined on the grounds of the range of influence of societal processes.^v The same is true for the boundaries and size of relevant design areas, bearing in mind that the appropriate criterion is not the present and trend-

projected scope of processes, but the future desirable scope. At every scale level, there will also invariably be elements present which are relevant at one or more higher scale levels.

In a process-oriented design, it suffices to indicate the functional-spatial structure and the size of the 'bounded areas' such as parking space, commercial centres etc. attached to it, plus (variations in) functional typology, height and depth values and some essential visual design

indications. A design of this kind is inherently more flexible than a blueprint. Figure 11 shows an example of a process-oriented design for the transition zone between the northern of the western lobes of Amsterdam and the circular part of the city.

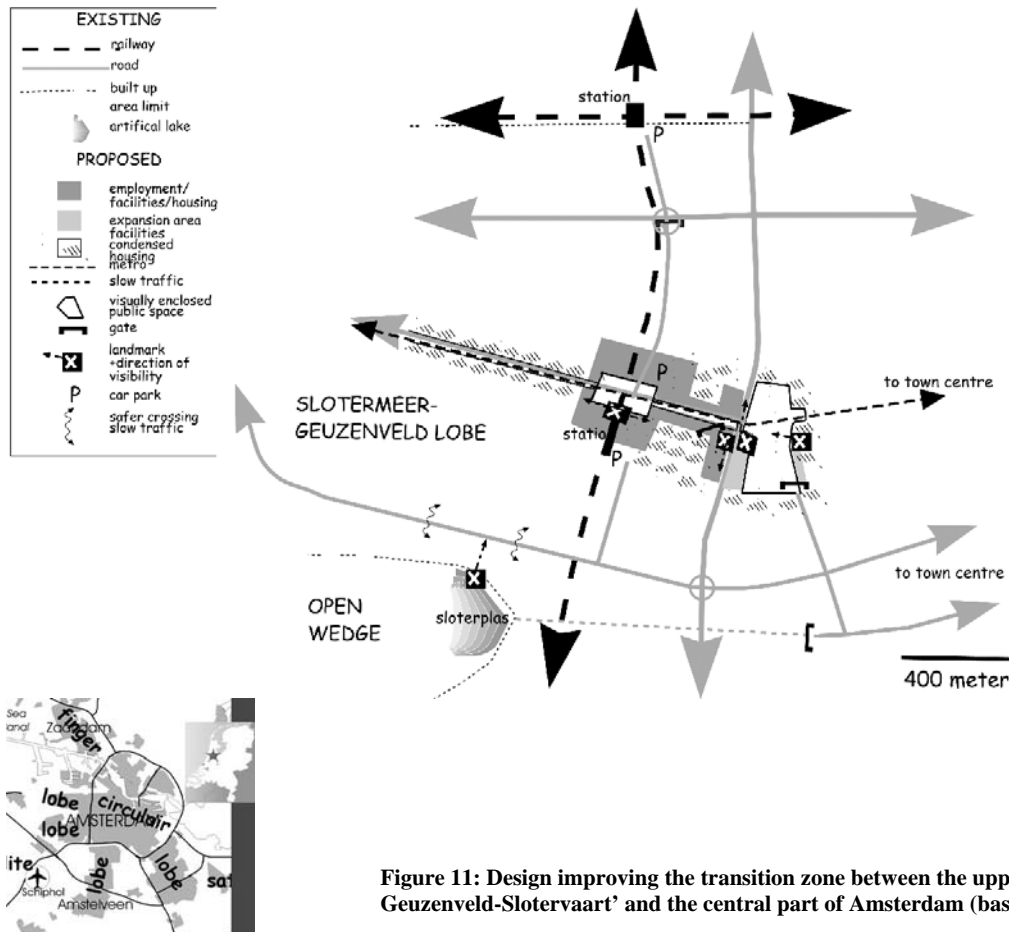


Figure 11: Design improving the transition zone between the upper western lobe 'Geuzenveld-Slotervaart' and the central part of Amsterdam (based on [2]).

Characteristic concepts for process-oriented design are

- cyclical process terms such as 'accessibility', 'temporospatial activity pattern', 'public safety', 'hierarchy', 'transport link', 'potential user base', 'magnet facilities', 'symbiosis' (=supporting interactivity), 'network city', 'transportation nodes', 'day, evening and night functions', 'day and night routes'
- linear process concepts as formulated under pattern-oriented design.

Examples of models used in this design approach are usually exploratory models (Figures 12 and 13).

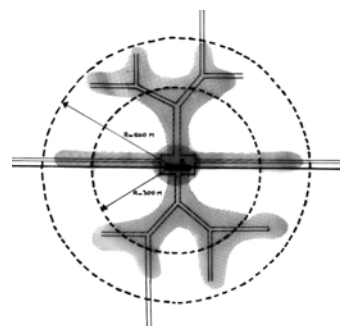


Figure 12: Exploratory model for the central zone of a regional centre: high concentration of facilities combined with intensive employment and dwelling opportunities around the train/regional bus station and along the (radial) main routes. Declining density in the peripheral centre areas. The mixing of collective functions with the 'dwelling' function is an outcome of the wish to create conditions for public safety.

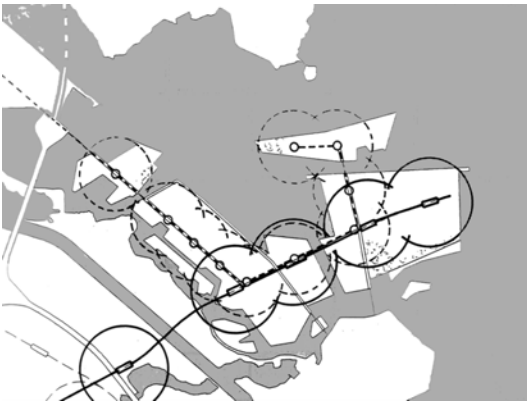


Figure 13: Exploratory model for the future urban extension of Amsterdam in the IJsselmeer (lake) (see Figure 2): accessibility circles of pre-transport for prospective rail link.

The following scheme summarises the main differences between the two design approaches.

Transformation or pattern-oriented design	versus	Societal-process-oriented design:
pattern		process
living, working etc. (residing)		travelling/ transporting
places		routes
zones		networks
accessibility: distance		accessibility: journey time
distance between residential function - work function, residential function - amenity function etc.		tempospatial activity pattern
(pattern based) blueprint planning		(functional-spatial) structure planning

Confusion

Designers are insufficiently aware that these two types of approach, namely pattern-oriented and process-oriented, may be distinguished. Pattern-oriented and process-oriented design, share some terms with the same definitions, but each also has a terminology of its own. They also sometimes use the same terms but with different definitions. They furthermore use different types of spatial models. The consequences are mutual incomprehension regarding the substance of the discipline, terminological confusions and poor insight into the societal significance of urban & regional design.

Incomprehension and linguistic misunderstandings are a consequence of the fact that certain terms are defined

differently in the two approaches to urban and regional design, and terms thus have different meanings.

An example of the confusion is, for instance, the spatial organization and design policy of the Municipality of Amsterdam concentrating on keeping public space in the inner city *empty* (see the memorandum *Leeg, Schoon en Heel* ('Empty, Clean and Whole'), published in 1996). This is a remarkable standpoint as long as one does not realize that it represents a pattern-oriented approach, and the term 'empty' does not refer to the absence of users but to the absence of street furniture.

Some examples of Dutch terms – and I assume the same goes for other languages - with differing meanings are shown in the scheme below (source [9, p. 87]).

Term	Transformation or pattern-oriented	Societal-process-oriented
residential milieu (<i>woonmilieu</i>)	dwelling type and housing density	type of spatial activity pattern which can unfold
density (<i>dichtheid</i>)	dwellings per hectare	users per hectare ('houses don't buy bread')
'green' norm (<i>groennorm</i>)	area of 'green' space per dwelling	accessibility, use value and informative value of green space
zoning (<i>zonering</i>)	on basis of functions	primarily on basis of accessibility
metropolis (<i>metropool</i>)	on basis of population density	on basis of complexity and intensity of cyclical urban processes

landmark (<i>landmark</i>)	visual point of reference	visual point of reference with a functional significance
spatial structure (<i>ruimtelijke structuur</i>)	formal structure; exists alongside functional structure	formal-spatial and/or functional-spatial structure
spatial-functional organization (<i>ruimtelijk-functionele organisatie</i>)	pattern	structure
mononodal/multinodal (<i>mono-/multinodaal</i>)	city or region consisting of either a continuous urban area or separate nuclei	flattened or unflattened functional hierarchical pyramid (can also occur in a formally mononodal city/region)
lineair city (<i>bandstad</i>)	ribbon shaped	having a linear structure
organizing principle	formal concept	e.g. 24-hour biorhythm; hierarchy

URBAN AND REGIONAL DESIGN AND THE CONNECTED CITY

In the Introduction the question was raised in what way urban and regional designers can and should contribute to connected cities. The way the European Council of Town Planners describes the Connected City, i.e. connecting space to time and connecting physical spatial structures to social structures, implies that the pattern-oriented approach to design isn't satisfactory anymore. This doesn't come as a surprise when one realises that this approach is related to the 'old' Charter of Athens, dating from the first half of the last century, i.e. to the zoning of urban functions (CIAM). Also the architecture related emphasis on formal design, paying little attention to those who will use it, plays a role. The following three examples underpin this statement.

(1) When squares, streets and their ensembles are viewed as autonomous compositions instead of as parts of urban systems accommodating societal processes, the users often pay a price. An example from Amsterdam is the fiasco of the 'oriental market': Figure 14.

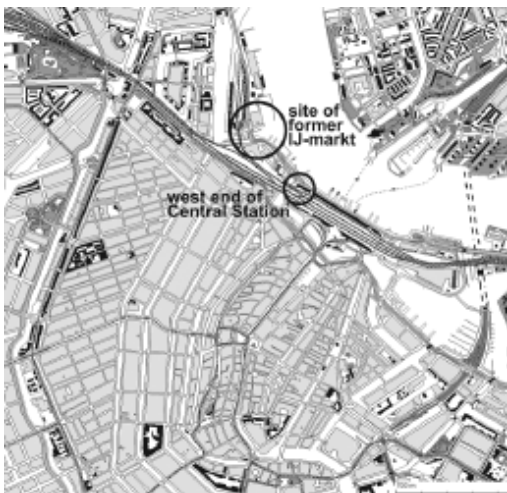


Figure 14: Site of the former 'Y-market' in Amsterdam

The Amsterdam Y-Markt, an 'oriental market' opened in 1993, mainly for use by traders from ethnic minorities, was supposed to become a tourist attraction with 2 million visitors per annum. It was situated in relatively isolated docklands

along *Westerdoksdijk*, an urban arterial road, far from pedestrian routes. The forecast visitor volume was based on the market's situation at the rear of Amsterdam Central Station. The market closed down a few months after opening, never having attracted more than a few hundred visitors daily. The city alderman responsible for the market was quoted in *NRC-Handelsblad* (17 June 1994) as saying, 'There was no time to carry out market research for a market on *Westerdoksdijk*.' Market research was of course unnecessary to predict that the siting of the Y-Markt would prove completely inappropriate.

(2) Another type of example: as mentioned above the spatial organization and design policy of the Municipality of Amsterdam concentrates on keeping public space in the inner city empty. A couple of years ago the Dam Square, the very centre of Amsterdam a decision was taken to reconstruct this square (see Figures 15 and 16).

Some comments on the implemented design for the Dam Square: 'it's lovely, Dam Square, but you can't walk on it'; 'Dam is a disaster for cyclists'; 'this designer does not walk on high heels, does not cycle, has no children and is not a wheelchair' (all in letters to the editor of a Amsterdam newspaper); 'a lunatic has been at work here, we are just waiting for the first fatality' (a police officer). Well, this first fatality did happen quite soon. Till so far though the only change that has been made is that a wheelchair path has been added – but only in one direction....



Figure 15: Master plan for the reconstruction of Dam Square, Amsterdam. Photograph of scale model viewed from south (designed by Simon Spietsma, Municipality of Amsterdam). Source: *Het Parool*, 19-02-2000. The Royal Palace is on the left and the National War Monument in the middle of the square is on the right.



Figure 16: A recent photograph taken after the implementation of the redesign. In the background, the Royal Palace; in the foreground, bicycles parked in front of De Bijenkorf department store. (Photo graph by the author)

(3) Another example of a place equally well known to visitors of Amsterdam . The *Museumplein* - the large public square on the south side of the *Rijksmuseum* - has recently been redesigned (by the Danish landscape architect Sven Andersson). The aesthetics of this composition were marred soon after implementation: Figure 17. The subtle differences in the paving of footpaths and cycle paths were beautiful, but unnoticeable for users of the square.



Figure 17: The white lines on the ground of Museumplein, Amsterdam, are meant to make it clear to users that parts of the pavement are meant for cyclists and not for pedestrians. They were added after accidents happened between cyclists and pedestrians. (Photograph by the author)

The way urban and regional design can – and should – make a positive contribution to the development of connecting cities is by the second approach, the one that is oriented to daily and weekly cyclical social, cultural and economic processes. This approach isn't new, in the past designers and urbanists like Constantinos Doxiadis, Kevin Lynch, Christopher Alexander and Jane Jacobs have shown a lot of affinity with the societal- process-oriented design approach. More recently the names of Bill Hillier, Jan Gehl, Jon Lang, adherents of the American 'New Urbanism' and Gabriel Dupuy and Nikos Salingaros should be mentioned. A lot of

ⁱ "The smallest difference that we wish to or are able to perceive, conceive or represent while not yet designating it as "equality" is ... the "grain" of the perception, concept or representation' [7: p.16].

ⁱⁱ The composition of the urban ground plan consists of the network of public spaces, the network of bounded private spaces ('islands') and the basic units of the city –grounds and building. The difference between urban design and architecture resides in the fact that the urban designer is concerned with the organization and design of public space, and the architect with private space. [4]

scientific effort is still needed though to connect the structure of physical urban systems to that of social and economic systems - at similar scales – in such a way that designers in practice will be able to work with this approach. This is definitely necessary to implement what is at this stage not much more than a piece of paper called The New Charter of Athens.

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ⁱⁱⁱ The same goes for the culture-based weekly rhythm (Bible, Koran) - although the importance of this rhythm has declined in significance in the post-industrial era - and a seasonal rhythm, particularly where there is a well-marked climatic variation.

^{iv} In thinly populated areas, there may even be 20-minute functions, e.g. mobile shops (*De Volkskrant*, 27 November 1993)

^v In the process-oriented approach account is taken not only of those elements of the natural system that are also elements of physical urban systems, but also of relevant cyclic natural processes such as atmospheric currents (wind).