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6 DESCRIPTIVE RESEARCH

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A lot of knowledge is needed for a good design; one that is functional, affordable, with architectonic interest etc. The same applies to a wealth of other activities within the architectural discipline; as there are policy development, spatial planning, formulating programmes of requirement, building and maintenance. Knowledge may contribute to well-considered and well-founded decisions. A methodological way to collect knowledge is the precise description of reality. The subject of description can relate to facts and wishes, to people and material objects, to plans and realised buildings. Examples are charting the housing preferences of potential inhabitants of VINEX-locations[a], a careful description of a building,[b] or plan documentations.[c]

A lot of insight may also be derived from detailed description of processes; as there are the thinking process of a designer or the decision making process concerning large projects in infrastructure. Two questions are of prime importance: 'What is going on?' and 'How is it going?'[d] The results may be presented as texts, drawings, tables, graphs, statistical notions (mean, spread), maps like the one of a city or a function chart, web-sites and databases. The description may be focused on individual variables and on relations between variables. Suppose, that local authorities want to know the opinion of the community on different designs resulting from a prize contest. Then it could be interesting to find out whether the preferences are differing per age category, or that 'laymen' and professionals are differing in preference.

In the present contribution we are describing firstly some characteristics of descriptive research. Next, we present examples of descriptive research and show how results can contribute to development of the architectural discipline. We conclude with recommendations.

6.1 CHARACTERISTICS OF DESCRIPTIVE RESEARCH

It is characteristic for descriptive research that it is restricted to factual registration and that there is no quest for an explanation why reality is showing itself this way. In principle, descriptive research is not aiming at forming hypotheses or development of theory. Another characteristic of descriptive research is objectivity or neutrality. Descriptive research is about describing how reality *is*. In this regard descriptive research differs from prescriptive research that is primarily concerned with the question how the reality *should be*. Descriptive research is making inventories; prescriptive research is normative.

With descriptive research in its purest form explaining and evaluating is left to the reader or to other disciplines. This applies for instance to the statistical surveys of Statistics Netherlands (CBS). Disciplines like geography (description of the earth) and social geography (description of the spatial aspects of social phenomena) are largely based on descriptions of reality. However, in practice there is a gliding scale from pure description to analysis, interpretation and evaluation. The same applies for the dimension objective <> subjective. Analysis and interpretation of the data are seldom completely objective. As a consequence, a biography (description of a life), or a plan documentation, is always partly, or even strongly coloured by the selective perception of the author.

When a study is explicitly focused on looking for explanation or on formulating a hypothesis or theory, we talk about 'exploring study' or 'study(explorative)'. Explorative study starts without clear preliminary ideas, at best with vague suspicions, looking for linkages and concluding with a careful explanation for what is found. In the case of testing study there is already in advance a coherent body of statements on reality (hypotheses). Next, whether the

a   See e.g. Wassenberg, F.A.G., H.M. Kruythoff et al. (1994) *Woonwensen en realisatie van VINEX-locaties in de Randstad*. Priemus, H., F.A.G. Wassenberg et al. (1995) *Mozaïek woningmarkt stadsregio Rotterdam*.
b   See e.g. Tettero, W. (1991) *Ministerie van Sociale Zaken en Werkgelegenheid*.
c   See e.g. the collections of building plans of Risselada et al and Barbieri et al, that are discussed in subsection four of this Chapter.
d   Baarda, D.B. and M.P.M. de Goede (2001) *Basisboek methoden en technieken*. See also Bechtel, R., R. Marans et al. (1987) *Methods in environmental and behavioural research*.

theory is supported by observations in reality is checked by study. That type of study is trying to provide more certainty as to the correctness of the hypotheses. When the results of study are providing more and more support for the hypotheses (in the jargon: confirmation of the hypotheses), the confidence in the theory is increasing. The tripod descriptive – explorative – testing is closely related to the empirical cycle as described in the classical monograph '*Methodology*' by A.D. de Groot.[a] Descriptive study and research is predominantly orienting on the observation stage, explorative study on the induction stage, testing study on the stage of deduction and testing.

6.2   METHODOLOGICAL CHOICES

The approach of descriptive research can vary greatly. Usually a choice must be made, given the limited means of study, between research aiming for study in width (a limited number of data on a lot of objects) and study in depth (for instance thorough description of one single case). The advantage of a case study (casuistry) is that it allows deeper penetration into the core of the matter. The corresponding disadvantage is that it is often difficult to generalise on the basis of one single case and to draw general conclusions.[b]

A second methodological choice is related to systematics. A lot of descriptive research is trying to describe reality according to a systematic approach rigorously followed. Usually it is based on theoretical considerations and is dependent on the objective of the study as well. Our own study of the decision making surrounding a pilot project in office innovation made use, for instance, of the study scheme presented here.[c] It was endeavoured to get, per stage, a picture of the agents concerned, their tasks and commissions, (changes in) objectives etc. In contrast, the phenomenological approach is refraining from a systematic approach on purpose. One wants to get into the heart of the matter and is trying to let the data speak for itself as much as is possible. It is only afterwards that an ordering is made on the basis of the findings. The phenomenological approach is particularly suitable for explorative study, when it is of prime importance to develop new ideas and insights. The emphasis is then not so much on generalising, but on generating knowledge and on building hypotheses.

When one does not look with a certain distance ('from outside') at phenomena, but via introspection ('looking within') a significant degree of subjectivity may well result; particularly when the introspection of the student himself is concerned and not the introspection of his respondents. This need not present a difficulty; as long as the material is primarily used for building hypotheses and the student is open to objective checking by other people or objects.

A third methodological choice is the one between quantitative study and qualitative study. A study of demographic developments or a description of the stock of homes according to certain characteristics is suitable for a quantitative approach. Advantageous in a quantitative approach is the possibility of analysing data statistically with the assistance of advanced software like Excel and SPSS.[d] Vast quantities of data may be summarised succinctly in central magnitudes such as 'mean' and 'spread' (see page 219) and in graphs and tables. Another advantage is the high degree of objectivity. However, not all phenomena can be expressed in numbers ('imponderabilia'). A description and analysis of the oeuvre of an architect is calling for a more qualitative approach. For a practical guidebook for the approach of qualitative study we refer to Baarda et al.[e]

6.3   METHODOLOGICAL POINTS OF ATTENTION

A description of an object or process is realised from a specific context or perspective. By the same token, every description is in a certain sense subjective. This applies to the choice of aspects to be described as well as for operationalisation (the way of 'measuring', see also page 92) and interpretation of the results. By making the context or line of approach explicit

	Initiative	Prepa-ration	Desi-gn	Con-struc-tion	Use and mainten-ance
Players and responsibilities					
Objectives					
Activities					
Aimed result			The cells include a description of the items per phase		
Time schedule					
Time actually spent					
Costs					
Information and tools					
Positive and nega-tive experience					

28   Possible framework for a systematic description of a plan process

a   Groot, A.D. de (1961) *Methodologie: grondslagen van onderzoek en denken in de gedragswetenschappen*. English edition: (1969) *Methodology: foundations of interference and research in the behavioural sciences*.
b   Swanborn, P.G. (1996) *Case-study's: wat, wanneer en hoe?*
c   Voordt, D.J.M. van der (1999) *Universitair Vastgoed: de leer- en werkomgeving*.
d   Ronden, J. den and W. van Nieuwenhuysen (1996) *Handboek SPSS voor windows*.
e   Baarda, D.B., M.P.M. de Goede et al. (2001) *Basisboek kwalitatief onderzoek*.

the results of descriptive study can be better judged as to their value. Checking them against the judgement of others increases reliability and objectivity. In this context the term 'inter-subjectivity' is often applied.

In addition, it is important to define concepts used clearly; this precludes interpretation problems. A topic of attention is the change in meaning of a concept in the due course of time. This may cause that results from study from different historical periods are difficult to compare. Striking examples are the standard company classification with which CBS is describing industrial development, the legends of maps and borders between municipalities. When these are changing over the years a calculation factor is needed in order to make them comparable. A related point of attention is the size of the grain of the measurements and the units used for measuring. Is utilisation of space described per postal code, per municipality, or per sub-municipality? Are the project costs of a plan description referring to the costs of investment or to the costs of construction? Is the scale of the graph a multiple of ten, or of hundred? Which operations on the data (adding, calculating a mean or ratios) are permitted? Are we dealing with data on individual people or objects, like year of construction or its state, or with aggregated data, like the average year of construction for a range of buildings? These are important questions to ask, not only while defining and measuring variables, but also while being informed on results of study by other parties. Subconsciously – or maybe even consciously – the presentation of data may give a distorted picture of reality. A booklet such as 'How to lie with statistics' speaks in this regard for itself.[a]

6.4 EXAMPLES OF DESCRIPTIVE RESEARCH

Descriptive research is often used in the Faculty of Architecture as well as outside it. It partly concerns study linked to individual projects and direct application, with the aim of being able to solve the design task: think of a description of urban characteristics of a building location or an inventory of the number of parking lots in the direct environment. However, in these cases rather finding out and registration than study proper is called for. The examples we will be discussing have been chosen on the basis of sufficient depth, methodological approach and the intention of contributing to the body of knowledge of the architectural discipline. Two examples relate to a project description; in the present case objects from the built environment. The other two examples concern descriptive study of an individual thought process and a collective decision making process.

a. Phenomenological studies

An example of a phenomenological approach is the introspective study of Van Lennep of the hotel room.[b] In it, the author is in search of the essence of inhabiting a room. For that purpose he analyses what it is that makes a room a 'room of one's own'; and why it is possible to feel at home – after a while – even in a hotel room. On the hotel room:

I have paid for it. In that sense it is 'my' room, but in no other respect. Just hours before, it was someone else's room. His traces have been wiped out with care. The hotel room is for everyone, so it belongs to no one. Even if I do not approve of the engravings on the wall that does not disturb me, for it is not my room after all. While unpacking, the room is already belonging more to me. If I have slept in it and return in the evening, the feeling increases. The hotel room does not only give me the experience of inhabiting in an original form, it is teaching me a form of existence that I hardly know at home; or not at all. I do not have any obligation. My activities are having a freedom, a being loose from everything that I do not know in this form at home. The hotel room is still indicating something of the adventure, a new task, after which one goes home contentedly. Dirty hotel rooms or with shoddy furniture do not evoke the sense of feeling at home. If a hotel room is too expensive, the same is true.

A second example is the PhD. thesis of Pennartz.[c] The subject of the study is the significance of space and spaciousness for the social conduct of people. The author describes three em-

a   Huff, D (1954) *How to lie with statistics*.
b   Lennep, D.J. van (1956) *De hotelkamer*.
c   Pennartz, P.J.J. (1979) *Mensen en ruimte, een studie naar de sociale betekenis van de gebouwde omgeving*.

pirical studies, one quantitative and two qualitative. The study is aiming at building a theory on the influence and experiencing of the built environment with regard to habitation. Theories and concepts from the social sciences are those predominantly used. Space and time are seen as framework for human activity. By way of an analysis of the relation between spatial characteristics of the home, characteristics of its inhabitants and the interest they are taking in privacy (studied via a written questionnaire) the aspects have been formulated influencing most strongly the wishes and appreciation with regard to privacy in the home. It is shown that the importance people associate with privacy is hardly dependent on spatial characteristics of the situation in the home; if at all. However, as a part of human behaviour, privacy is influenced by it, especially in the case of children. In addition, privacy proves to be an important aspect of valuing the home.

For the qualitative part of the study 25 families were interviewed on feeling at home, the functions of the different rooms in it and cosiness at home. The talks have been recorded and typed out. On the basis of a content analysis items have been selected for further working out; like 'knowing one's way around everywhere', 'having control over your own time', or 'the meaning of the place of the space'. Per item, texts were collected from the interviews and summarised. In this the original data has been maintained as long as possible in its context intact, receiving minimal interpretation. Finally 'constant structures' have been distilled from this. For situations within which people are feeling at home this is, for instance, "being free from social control, not needing to respond to certain expectations of others and being able to withdraw from observation by others", and also "being significant to others, getting assistance from them and giving it to them, belonging to them". The structures have been largely formulated in terms of relationships with other persons. Spatial characteristics have been made hardly explicit, while these are in fact the conditions determining to what extent certain human activity can take place. For the theme 'cosiness' spatial characteristics were more explicitly taken into account.

By inquiry in time and place, or when and where the home is at its cosiest, data was collected on the significance of the place of activity, the structure and size of the space. All this is illustrated on the basis of parts of the interviews. Closure of spaces, the possibility to partake in collective activity and to observe one another determine largely whether a space is experienced as being cosy. In this, size and shape are important factors. Work and great emphasis on efficient facilities are lowering cosiness. Next to spatial characteristics, the characteristics of the activities are influencing the experience of cosiness as well. Taking pleasure in activity, beyond obligation and absence of boredom are enlarging the feeling of cosiness. Pennartz relates his findings to future developments in the area of work and leisure time and the significance the home is going to have in the future.

Comment

Both studies are providing a deeper insight in – at first sight – very common phenomena. However the conclusions are very global and have been translated hardly in spatial implications: that is largely left to the policy makers and the designers themselves. Often the thread is picked up by different studies, like the one by Marja van der Werf focussing on inhabitant preferences and usage quality.[a] On the basis of studies by others – Pennartz among them – she is providing realistic guidelines for a usage-orientated home. Another example is given by Franceline de Jong.[b] She ordered the results from a large number of habitation preference studies per part of the home; on this basis she put forward a theory on the relation between inhabitant characteristics and habitation preferences.

One disadvantage of the phenomenological approach is its labour-intensity and the risk of a lack of balance between a lot of material and few conclusions ready for application. Perhaps this is the reason that the phenomenological approach is not often applied in the environ-

a   Werf, F. van der (1993) *Open ontwerpen.*
b   Jong, F. de (1997) *Woonvoorkeurenonderzoek: theorie, empirie en relevantie voor de praktijk.*

ment of the designer's discipline. Usually the wishes and preferences for habitation are enquired into as directly and concretely as possible.[a] A descriptive study by Wassenberg *et al.*, for instance, is addressing the question *what* should be built on VINEX locations and *for whom*. Attention is also given to policy and boundary conditions. Use has been made of study of the literature, discussions with parties in the market and a poll among those who are considering to move to a VINEX home. The pre-suppositions of the market parties prove to differ from the results of the poll in several respects. This underlines the usefulness of empirical study. Building in high densities will not be accepted by many consumers. For most of the candidates high-rise apartment buildings are not a good solution. Particularly people who intend to move to a suburb want a garden. Its absence can only be compensated for by an extra high quality of the immediate surroundings (water, exceptional quality of greenery). Parking garages are not appreciated. The most important requirement is a lot of space within the home. Consequently, less surface space is not a good solution for building in high densities.

b.   Architectonic studies
Between 1985 and 1991 the Faculty of Architecture TUD produced seven '*Architectonic Studies*', edited by Leen van Duin *et al.*[b] It was tried, on the basis of plan analyses and interviews with designers, to get better insight into the objectives and design methods of architects. The series is a next step following four notebooks in the education module '*Architectonic Designing*' (1981–1984). Around the change of the millennium a book was published on hundred years of Dutch architecture 1901-2000'.[c] In it, a large number of plan discussions was collected once again. In the plan analyses, intensive use is made of a systematic thematic fourfold structure: 1) effectiveness, 2) intention (programmatic analysis, focused on functionality), 3) material form and, 4) image. This ordering is derived from an article by P. Frankl dating from 1914.[d] The interviews with the designers are following the design process between the commission and the final design.

In contrast to architectonic studies, the collections of building plans of large and industrialised housing projects, libraries, homes and theatres restrict themselves largely to description of the plans.[e] In the preface to the '*Collections of building plans: libraries*' Barbieri states that this collection intends to offer students the wherewithal needed for formulating and then solving the problem of the 'construction' of the architectonic design of a specific building type. The book is meant to be an educational instrument for architectonic designing. It is presupposing a methodology and apparatus of epistemological means and techniques. Point of departure is that a design, following selection and combination of a sequence of parts and elements, can be constructed into an architectonic whole. The collections of building plans is providing the ingredients for this, by describing for an array of libraries a number of functional, constructive and formal aspects. Criteria for the selection of the plans are lacking. In the '*Collections of building plans for the basis*' however – with photographs, blue-prints, cross-sections and details of forty homes – it is indicated which aspects are the basis for selecting the plans; for instance type of home, floor plan, type of articulation. By making this visible the plans become better legible and comparable. In addition the introduction is providing a number of questions, clustered in themes like technique, process, environment, type, situation and programme. These questions establish a handy utensil to study the plans systematically.

Comment
The plan documentation in architectonic study can be seen partly as a descriptive study. However, they are going a step further by putting the plans in a social context, by tracing underlying arguments and comparing plans to other plans. There is a lot to be learned from this. An evaluation in the form of a valuing judgement, drawing lessons from plusses and minuses and distilling designing principles and representative variants of solution is nevethe-

a   See Kempen, R., H. Floor et al. (1994) *Wonen op maat.* Wassenberg, F.A.G., H.M. Kruythoff et al. (1994) *Woonwensen en realisatie van VINEX-locaties in de Randstad.*
b   Duin, L. van (1985-1991) *Architectonische studies 1-7.*
c   Barbieri, S.U. and L. van Duin (1999) *Honderd jaar architectuur in Nederland, 1901-2000.*
d   Frankl, P. (1914) *Die Entwicklungsphasen der neueren Baukunst.*
e   Risselada, M. (1993) *Plannenmap: het ontwerp van het grote woonhuis;* Risselada, M. (1996) *Plannenmap: het ontwerp van het geïndustrialiseerde woonhuis;* Barbieri, S.U., L. van Duin et al. (1997) *Plannenmap: bibliotheken;* Haaksma, S.H.H. (1999) *Plannenmap voor de basis;* Barbieri, S.U., L. van Duin et al. (2000) *Plandocumentatie theaters.*

less largely absent. This is applying even more for collections of building plans. Apart from modest inroads into plan analysis, it largely concerns a description of the plans. This can be defended as an educational means for students. But for the development of the profession it is a missed opportunity. Studies like this would increase in value by adding a comparative analysis of the plans and by Post-Occupancy Evaluation (see page 151) of realised buildings. This is giving better insight into alternative approaches of design, relations between means and objectives of designing and advantages and disadvantages of variants of solution.

c.   Architectural thought

An example of a clear and systematic description of a process is Hamel's' study of designing processes from a cognitive-psychological point of view.[a] Based on a review of literature on design methodology, Hamel developed a descriptive model that represents experienced architects reasoning during the design process. The next step was an empirical test of this model using verbal protocols of architects thinking aloud while working on a design. The author concludes that a design process consists of repeated cyclic processes with three principal steps: analysis, synthesis, and choosing of forms.

- Analysis includes a review of the task, collecting additional information and dividing the total problem into sub-problems. This decomposition is based on different dimensions, like functional aspects, aesthetics, construction aspects and town planning.
- The synthesis focuses on solving sub-problems, an integration of sub-solutions for each dimension and subsequently integrating these sub-solutions into one overall solution.
- Choosing forms is described as giving shape to the solution in such a way that the design can be considered as 'architecture'.

According to Hamel each step includes three stages: orientation, execution, and evaluation. The designer's task consists mainly of transformation (from text to drawings, from user's activities to square metres), switching (from concept to detail and vice versa, from one sub-problem or dimension to other sub-problems and dimensions) and feedback (from solutions to objectives).

Hamel's descriptive model fits in with other design methodology models that are partly descriptive, partly prescriptive. Lawson[b] discerns five tasks: preparation, analysis, synthesis, evaluation and communication, which continually inter-change. However, some differences appear between Hamel's (a psychologist) the models and the other authors (mostly architects or engineers):

- In prescriptive models, 'analysis' consists of compiling and structuring the problem, investigating data and identifying objectives, whereas Hamel's descriptive model highlights gathering information, decomposing the problem and solving sub-problems.
- In most prescriptive models, synthesis is conceived as generating solutions, whereas in the descriptive model the search for solutions is divided into two separate steps. Step one is searching for a solution for each sub-problem separately (analysis), step two is finding a combined solution for the design problem as a whole (synthesis).
- In prescriptive models, shaping is primarily directed towards aesthetic experiences, whereas according to Hamel, the designer is also looking for 'elegant' solutions, using no more means than necessary.
- In the prescriptive models evaluation is interpreted as overall activity, as a means of weighing up solutions against objectives. According to Hamel evaluation is a part of every step in the process: each sub-solution is evaluated with reference to relevant criteria. As such, design processes explicitly show characteristics of problem solving processes and are related to the TOTE cycle of systems analysis: Test → Operate → Test → Exit (see page 254).

a   Hamel, R (1990) *Over het denken van de architect: een cognitief psychologische beschrijving van het ontwerpproces bij architecten.*
b   Lawson, B.R. (1997) *How designers think: the design process demystified.*

According to Boekholt[a] the sequence is not fixed. Processes are drifting from formulation of objectives to generation of solutions and (in between) evaluation of solutions. It may also happen that a solution is generating new objectives, or that an evaluation necessitates new analyses, before new (partial) solutions may be thought out.

Comment

Descriptive models of the designing process can be used for testing prescriptive models and founding them empirically. Furthermore, designers can mirror their own activities in them. Hamel also analysed for all steps in the designing process what a designer should know and what he should be able to do. This is making his study not only theoretically interesting, but also socially relevant, particularly for education in designing. The difference in problem formulation, use of language and framework of concepts of scholarly students and architectonic designers is posing a problem. Hamel's suggestion for shared authorship would perhaps alleviate this problem.

d.   History of the emergence of the Bijlmermeer

Amazement about the radical break in the Dutch building of cities caused Maarten Mentzel[b] to start a search for the backgrounds and motives for designing the Bijlmermeer. That settlement in Amsterdam was designed in the late sixties. The aim was an exceptional example of modern town planning, inspired by Le Corbusier's ideas. Soon after completion, the quarter became problematic. His thesis contains a systematic description of the process of realisation and the habitation history, demonstrating a cleavage between the expectations of the planners and architects and reality. His most important sources are existing documents and articles in newspapers and the professional media. In contrast to Pennartz, postponing the selection of data as long as possible, Mentzel is orientating his study primarily on continuity and on changing designing ideas, as well as on factors influencing them. He is paying attention to the (habitation) buildings as well as to the environment, motives and ideologies and the planning process. The results have been placed in a theoretical framework with three dimensions: knowledge, group and organisation, and planning. For this dimension of knowledge a study is made of what the importance and influence of knowledge and ideology has been and how insights from the sciences and the arts have been dealt with. The dimension 'group and organisation' is high-lighted from social-psychological mechanisms, with special attention to the functioning of the small group that was charged with the formulation of a plan. The study of the planning dimension is focused on the initial stage during which the objectives were formulated.

With regard to the knowledge dimension Mentzel concludes that a small group of people dominated the planning process. The choice for high-rise building is purely based on the ideas of (urban) architects and planners. Second thoughts generated by urban studies and results of studies in habitation preferences have not played a rôle of any importance. The same is valid for socio-economic developments like an increase in spending income, leisure time and mobility. Ideas from outside were only admitted if they fitted into the shared striving for a 'daring' design, leading to distinction. The planning group felt itself supported by pleas for systematic building and labour-saving building devices – among others from the national Minister at the time, Bogaers – and by a report from the High-rise / Low-rise Committee stating that high-rise is requiring for broad segments of the population 'just' an adaptation of style of living and its civilisation.

The dimension 'group and organisation' is analysed according to the theory of Janis and Mann. They formulated seven criteria for an ideal process of decision making. It is essential that decision shapers should study with the information from experts objectives, and the values associated with them, and audit alternative solutions in terms of costs and risks. According

a   Boekholt, J.T. (1984) *Bouwkundig ontwerpen: een beschrijving van de structuur van bouwkundige ontwerpprocessen.*
b   Mentzel, M. (1989) *Bijlmermeer als grensverleggend ideaal.*

to Janis and Mann, reality often differs strongly from a rational decision process and the shaping of decision is characterised by thinking as a group. This applies in particular when there is a strong coherence within the group, isolation, no procedures for methodical searching and little willingness to look for different solutions, see also page 389. Conditions like these can readily lead to decisions with great disadvantageous consequences. Mentzel is showing that the conditions mentioned were emphatically present in the planning process of the Bijlmermeer.

With regard to the planning dimension Mentzel demonstrates that insufficient attention has been devoted to the strategic stage: the global determining of objectives and means. During the stages of an increasingly more specific determining of objectives and means alternative plans have hardly been discussed; if at all. Lack of time certainly played a rôle.

Comment

Careful description of a planning process can shed light on what makes a project more, or less, successful; certainly when the description is related to the comments of planners, designers and users, as well as placed in a theoretical framework. This creates a better understanding of the case, while the study is contributing to the furthering of theory, building on the processes shaping decision. In spite of the social-historical approach, Mentzel's study offers a thorough reflection on planning principles and designing strategies. In studies by urban architects the intention is often more strongly focused on understanding spatial forms. An example is the study by Han Meyer[a], for an important part a set of descriptions of the relation between city and harbour in London, Barcelona, New York and Rotterdam and the differences in cultural appreciation of the spatial form of this relation. On this basis Meyer formulates a number of agenda points for the design of intermediary open spaces. Among other topics, Meyer is pleading for designing a new typology of public spaces enabling a symbiosis between large-scale networks and the small-scale of urban fragments.

6.5 CONCLUSION

Descriptive research and study can assist designing in several ways. In the first place as a basis for the programme of requirements. On the basis of demographic and socio-economic data, for instance, it can be decided to reserve a supply of homes for elderly people, to transform a neighbourhood school into a community centre, or to build a new hospital with x beds. Data from descriptive study are used then to make predictions on a situation that is in the future desirable or probable. In the second place, descriptions of plans and of realised buildings may be an important source of inspiration for the development of a plan. Architects and city-builders often get their inspiration from references in the past; i.e. precedents, see also page 401. Implicitly a designer is trying to distil from the descriptions hypotheses and predictions on the functioning of the partial solutions selected by him or her as they relate to wishes formulated by the commissioners or by him/herself. In the third place the results from descriptive research can be used as a means to test designs. By comparing a design to other designs and realised buildings it may be considered on which points this design matches or is standing out. Maybe, on this basis predictions can be made on the functioning of the building to be realised. Linked to an evaluative moment, this may, or may not, necessitate adaptations. Descriptions of processes can also teach a lot. They can give insight in factors for success and failure and in the significance of study for decision making. Descriptive research is increasing in value when it does not limit itself to mere description, but also contains initiations to interpretation and evaluation of its findings. A more intensive co-operation between those who study and those who design could enlarge the application potential in the design process. This seems to apply particularly for the start of the study – the formulation of the problem and of the objective – and for the finalisation of the study: the formulation of conclusion and recommendations, together with making the results accessible.

a   Meyer, H. (1996) *De stad en de haven*. English translation: (1999) *City and port*.