

The methodology of study in the history of architecture is permeated by fundamental pre-suppositions with regard to the arts and architecture itself. Since the history of art – with the history of architecture as one of its constituent parts – does not feature its own universal-historical systemisation, but is one of its parts, the methodological problem is permeated by the concept of history as a branch of learning. This sees to it that a systematic rendering of the method of the history of architecture is complex; and, in a historical perspective, by no means conclusive.^a The present text is a first attempt to formulate the methodological starting points of the study of the history of architecture based on its practice and the literature: a systematic formalisation along the lines of a model. This entails that the practice is more ‘synthetic’ and demonstrates more methodical cross connections.

I depart from the object, the building. On that basis I try to explain the different steps of the study of architectural history: heuristics, analysis and interpretation. Firstly the use of sources (heuristics) is dealt with, next the methodology of analysis and interpretation and finally the ‘usefulness’ of the methodology for designing.

In accordance with my education as an art historian, I regard the history of architecture as one of the parts of the history of art. This means that my methodological discourse is presented before the background of the methodology of the history of art. It also implies that architecture is regarded here as a member of the ‘family’ of the visual arts. This may be restrictive. Wherever possible I will draw attention to this restriction of the methodology when it comes to architecture. On the other hand, I would like to make clear from the start that the way to proceed as described should be applicable for an object dating from the fourth century B.C. as well as for an object of the fifties of the twentieth century.

7.1 USE OF SOURCES – HEURISTICS

a. Sources and Literature

The use of sources is an essential point of departure for the study of the history of architecture. With this a distinction may be made between the sources themselves and the literature on them. ‘Literature’ means here the architecture-historical studies on the subject of the study which have already been written. The documenting material, printed or not, from the era of the subject of the study falls under the category ‘sources’.

In an Architecture Faculty the study of architectural history is usually restricted to study of the literature, particularly when it concerns the work of students. This may be sufficient, seen within an educational perspective, but it certainly is not seen fundamentally, while only the sources are witnesses of the past; not the interpretations of the present.^b Also, where the study of the literature is concerned the source material is called for: not by way of personal experience – autopsy – but, ‘second-hand’, pre-processed by others. Study of literature is a pre-requisite, but can not replace in any way the study of the sources. However, it may point the way towards the sources.

Clear separation between sources and literature as described has a demonstrative purpose. In practice things may be more vague. The borderline between a documentary source and the literature does not always resemble a honed razorblade. Furthermore, it is not always possible to consult all kinds of sources personally.

b. Kinds of sources

The sources themselves may be differentiated as primary and secondary. Primary sources include the building itself, design drawings and models: the building of course, since only by its materiality it embodies architecture. The blue-print and the model are admittedly no buildings, but represent in a visual form the concept of the building. Texts on architecture, regard-

7.1	Use of sources – Heuristics	61
7.2	Analysis	63
7.3	Interpretation	63
7.4	Literature	68
7.5	Remarks	68
7.6	Significance for designing today	70

a As far as is known Dutch historians of architecture have written seldom methodological treatises. An attempt to it was made in the inaugural address of Grinten, E. F. van der (1963) *Bouwkunst-geschiedenis of bouw-kunstgeschiedenis: grenzen en mogelijkheden in de geschiedschrijving der bouwkunst*; or: Mekking, A.J.J. (1986) *De Sint-Servaas-kerk te Maastricht*.

b See for instance the different descriptions en floor plan illustrations of the same building (San Carlo alle Quattro Fontane), Grinten, E. F. van der (1963) p.8-9, 22-23.

Examples of ordering are the following:

Topographical ordering

Published descriptive lists of monuments, topographical inventories like:

- Maiocchi, R. (1937-1949) *Codice diplomatico-artistico di Pavia dell'anno 1330 ad 1550 I+II*.

Also, under this heading are collection catalogues of museums and other collections, particularly important for architectural drawings and models, e. g.:

- Egger, H. (1903) *Kritisches Verzeichnis der Sammlung architektonischer Handzeichnungen der K.K. Hof-Bibliothek*;

- Drexler, A. (1986) *An illustrated catalogue of the Mies van der Rohe drawings in the Museum of Modern Art*;

- Blau, E. and E. Kaufman (1989) *Architecture and its image. Four centuries of architectural representation, works from the collection of the Canadian Centre for Architecture*.

The last one mentioned is an example of a combined topographical-monograph ordering.

Chronological ordering

Editions of sources, with or without commentary, relating to a specific era, like:

- Schloßer, J. von (1924) *Die Kunstliteratur. Ein Handbuch zur Quellenkunde der neueren Kunstgeschichte*;

- Lefavre, L. and A. Tzonis (1984) *Theorieën van het architektonies ontwerpen* or

- Ockman, J. (1993) *Architectural culture 1943 - 1968*.

Bibliographic ordering

Lists of documentary sources, e. g.:

- Senkevitch Jr., A. (1974) *Soviet architecture 1917 - 1962: a bibliographical guide to source material*.

Monographic ordering

Catalogues of collected works, e. g.

- Boesiger, W. (1946-1970) *Le Corbusier et Pierre Jeanneret: oeuvre complete*;

to one project, e.g.:

- Neutelings Riedijk Architecten (1998) *Minnaertgebouw Universiteit Utrecht*.

Reprints of tracts and theoretical observation also belong under this heading.

less of their importance, belong to the category of secondary sources. They are words, not buildings. They lack the significance of visual information. This applies in a general sense. When texts on architecture are an object of study themselves they should be viewed as a primary source.^a Secondary sources are then 'addenda'; e.g. the texts of the designer himself, illustrations, letters, testimonies and opinions of contemporaries, business documents like bills, licences, legal papers, correspondence on the commission, etc.^b Finding source material often requires special effort, particularly in archives, since many archives follow their own systematic approach and are usually not focused on architecture.

A different systemisation of sources is also possible. In that case the works of art – by the same token works of architecture – are seen as objects of the study as an independent category and positioned outside of the sources. The distinction between primary and secondary sources then looks different.^c

c. Critique of sources

This entails the assessment of sources in terms of their value to yield information; at the same time the factual data of the literature already existing may be checked. Questioning the usefulness of the sources relates to the following problems: the correctness (possible 'falsum', the partiality of the source *vis-à-vis* the subject, etc.), the provenance (may seem obvious, but sometimes it is not)^d, the time (dating), the author or origin and the originality of the information. In that last case the question must be answered whether the source is a primary one in terms of content and chronology, or that it reproduces data already known. Some data will probably never be found. In that case an answer must be reconstructed from contextual data. In the case of an anonymous building inquiries concerning the author or time of construction may only be answered approximately by a comparison of style criticism.

d. Ordering the source material

Systemising the data obtained depends on the subject of the study. Usually ordering the source material first in terms of elementary information, like time, place, subject and author or a combination thereof, is the thing to do obvious. Thematic ordering of primary sources as to type, based on its functional use or on form (form typology) or on material and construction is specific to architecture. This stage is occasionally the final objective of the study. Arranging the source material may already encompass an element of analysis and interpretation, especially in the case of editions of sources containing comments. However, the emphasis of editions like that rests on representing the sources. Examples of ordering are listed alongside.

e. Adjacent disciplines

In addition to general history, here considered as an obvious background, processing and ordering source material often needs support by other disciplines of learning. In part specialised branches within the historical discipline are concerned, the traditional disciplines enabling it being, among others:

- Paleography (the learning associated with the development of lettering and writing) enabling reading old sources.
- Diplomacy, devoting itself to the origination, kinds and dating of legal sources and writs
- Chronology, that might assist in re-calculating old types of time keeping to our current one, dating. This is particularly important for the history of architecture of previous ages up to and including the eighteenth century.

In the case of material sources help from chemical and physical technologies is sometimes needed. Computer technology may also be helpful in ordering and comparing sources. Critique of sources may also call upon other areas of learning like legal studies, philology, economics, mathematics (statistics) etc.

a E.g. Kruff, H.W. (1991) *Geschichte der Architekturtheorie. Von der Antike bis zur Gegenwart*. English translation: (1994) *A history of architectural theory: from Vitruvius to the present*.

b For a very extensive and systematic treatise on source material and criticism see Tietze, H. (1913) *Die Methode der Kunstgeschichte*. p.184-278.

c Compare e.g. Bauer, H. (1976) *Kunsthistorik: eine kritische Einführung in das Studium der Kunstgeschichte*. p.108, 120 en Badt, K. (1971) *Eine Wissenschaftslehre der Kunstgeschichte*. p.64-65.

d See, for instance, the cumbersome and time-consuming search for the provenance of the ideal monastery schema from Sankt Gallen.

7.2 ANALYSIS

The first conceptual recording of the image and structure of a building (the drawing) is morphological and technical analysis. This should result in the description of the building with its specific characteristics.

a. Morphological analysis

A morphological analysis is an approach bound by an object. Its purpose is determining the specific characteristics of the architectonic work (what and how), in order to interpret them later in a criticism and comparison of style and to put them in a broader perspective (why). A morphological analysis analyses the architectonic (visual) properties of a building or of a design drawing, the conceptual version of a building. Whether a drawing is the only rendering of the design, or when it has a complementing function might make a difference; in the second case it documents the existing building and eventually the stages of the design.

From the vantage point of systemisation one might make a distinction between formal and structural aspects of the style-critical analysis in spite of the fact that in reality all aspects of a building always relate to one another as a unity. The concept (disposition) of the blue-print, the articulations of the elevation (the building mass rising from the blue-print) and the ensuing spatial concept may be seen as structural aspects. The problems of the ordering of the whole (composition, rhythm) and the visualisation of the constructive aspects (tectonics) also belong under this heading. Formal aspects are, for instance, the ordering of the outer walls, detailing and the architectural decoration (also of the interior) and the 'use' of visual artworks within the building.

A morphological analysis of a building displays its specific, individual architectonic characteristics: the materialisation of the design idea is charted.

b. Technical analysis

Since a building is bound to a concrete place and subject to physical laws as a material object it also has technical and physical properties. Style critique can not determine them; at least in an artistic, sublimated form (construction tectonics). Following Robert Hedicke^a one might call the analysis of these properties the technical methodology. This type of analysis is directed towards the properties characterising the building in terms of site, building materials, and construction. Style-critical and technical analysis complement one another.

One may view the site as something outside of the work of piece of architecture proper. On the other hand the site is physically insolubly connected with a building. Considering that the site by its size, positioning (geomorphic disposition, adjacent buildings) and structure of the soil is one of the determinants of the design and its actual execution these aspects always require attention. Possibly references in terms of cultural history of the site might be important.^b

The significance of the building material for the manifestation of architecture speaks for itself, since the material chosen also determines the construction of the building and the structure of the building surface. Information on the kind and provenance of the building material may also provide insight into the building process and its history.

The building construction is a literal embodiment of the physical *raison d'être* of a building. Vitruvius already mentions 'stabilitas' as one of the three necessary conditions for architecture. That is the reason that the identification of the construction of a building is a necessary step in the architectural-historical study while giving the background information for the analysis in terms of style critique. Not only the building itself, but also its drawings and blue-prints are an important source for this analysis. Usually building constructions distinguish materials used and the construction proper.

7.3 INTERPRETATION

The interpretation of a building aims at determining and understanding the original architectonic intention of the work and its significance and place in the development of architecture.

Typological ordering

Usually surveys of kinds of building, like:

- Dimier, A. (1949-1967) *Recueil de plans d'églises cisterciennes*;
- Sherwood, R. (1978) *Modern housing prototypes*;
- Barbieri, S.U., L. van Duin et al. (2000) *Plando-cumentatie theaters*.

Material and construction

Description and survey, e.g.:

- Leonhardt, A. (1964-65) *Vom Caementum zum Zement I-III*;
- Quarmby, A. (1974) *The plastics architect*;
- Oosterhoff, J. (1978) *Constructies, momenten uit de geschiedenis van het overspannen en ondersteunen*.

a Hedicke, R. (1924) *Methodenlehre der Kunstgeschichte: ein Handbuch für Studierende*, p.100-132. Although the book is rather dated, among the historians of art Hedicke is from a methodological perspective an exception because of his attention to the technical aspects of the visual arts (including architecture). Remarkable is his still topical observation: "Außer den Kreisen der Architekten-Kunst-historiker und der Künstler ist heute das Technische in der Kunstgeschichte verachtet, und äußert sich auch darin, daß die Studenten der Kunstgeschichte für das technische in der bildenden Kunst heute gar kein Interesse und Verständnis mehr besitzen." I.c. p.102.

b For a widely ranging meaning of the building site see Norberg-Schulz, Chr. (1981) *Genius loci: towards a phenomenology of architecture*.

Any historical study – and, perforce, architectural-historical ones – always focuses on the intentions and context at the time of the work itself. It is the only way to understand the work: it is a *conditio sine qua non*. This way we may now experience a gothic church as impressive by the materiality of its daring construction and the clear spaciousness, while in the middle ages it was just surpassing materiality and the mutual symbolic functions of the parts establishing the ‘experiencing’ of this architecture. The ‘delight in art’ at that time carried much more the stamp of theology than present-day appreciation; it was of a different order. However, this approach is only tentative: it is not only seldom that all data can be found, but a complete experiential transition to the past is impossible; the work of a historian of architecture is done by necessity in the present. The past is over. Although understanding sources in their original significance results in some access to the history, historiography is an activity of the present. Already in 1868 the historian Johann Gustav Droysen put it this way: “*Unsere ganze Wissenschaft beruht darauf, daß wir aus solchen noch gegenwärtigen Materialien nicht die Vergangenheit herstellen, sondern unsere Vorstellungen von ihnen begründen, berichtigen, erweitern wollen, und zwar durch ein methodisch verfahren, das sich aus diesem ersten Lehrsatz entwickelt.*”^a Even when ‘our imaginings’ of the past are determined by today’s position of the historian, the importance of the transient ‘social relevance’ is not always relevant for analysis and interpretation of the sources. In the study the sources can only be understood within the original context. In contrast, actuality can determine what is going to happen with the result of the study. This may affect the selection of the theme of the study. It becomes clear then where the historical approach and current social interests (‘relevance’) cross one another. With problems of monument in the national trust, for instance, the knowledge of the original significance of a building plays a leading rôle since it is a factual testimony of the past. At the same time its value as a remembrance, decisive for putting it on the list of monuments, rests on an interpretation in the here and now. The rôle of ‘social relevance’ (present context of the building) comes much more strongly to the fore during renovation and renewed usage.

a. Context as a frame of reference

Where the stage of analysis addresses the question ‘what’ the characteristics are of the work of architecture, the stage of interpretation addresses the question of the ‘how’ of these characteristics and their original significance. Although the building embodies its characteristics and, therefore, also its significance itself, it can not be understood by itself. The answers to these questions can only be found in the inter-connection of the work with its contemporary context: a building does not come into being in a timeless vacuum, but in a specific historical situation. This entails that the pure object-driven approach of the architectural work must yield to a broader approach, related to the historical context of its origins. This may call for study of the relationship of the architectural work with the contemporary aesthetic norm(s), technical know-how, the conventions and backgrounds of its use and study of (original) significance of the architectural work transcending these categories. It may also be undertaken on a more general level (school, area, era). Not only determining and interpreting the characteristics and significance of the architectural work is important for study in architectural history, but also their changes. In this way interpretation might have several aspects and levels. Since these aspects and levels always relate to one another, rendering them systematically is a difficult and schematic exercise by necessity. It also depends on the theme of the study. I have opted for arranging the interpretation according to the context of the architectural work, in this case the context of factual originating, the context of the functional use, the context of the style and the context of the iconographic and transcendental significance of the work. It is admittedly a heterogeneous systemisation, but it attempts to encompass and conclude the problem of interpretation. Allocating the architectural work within the history of architecture would then require weighing all four contexts as they inter-relate.

^a Droysen, J.G. (1960) *Grundriß der Historik: eine Enzyklopädie und Methodologie der Geschichte (1868)*, p.20.

b. Context of the originating

The most immediate context applicable to the architectural work is the one of the commissioner, the author (designer) and the constructor (building company). Together they embody the conditions for the building to get into being, so that their rôles in that process should always be studied. The factual data on the commission, the author and execution should already have been determined by the critique of the sources. Here their specific rôles *vis-à-vis* the characteristics and intentions of the individual architectural work stand central. Studying the commission, the author and the building company can be an independent objective of a study – separately or not – focused on the individual building or on a general theme.

The commission

A commission, given by a principal, starts the designing and building. Compared to the art of painting, for instance, this is specific for architecture and for arts and crafts. Historically speaking, this difference is of relatively recent origin, since the nineteenth century. This commission includes the destination, so the kind of use (type) of the building and the specific wishes and conditions of the commissioner. These wishes are inter-related with his social position and with his possible political ambitions. The study of the commission and the commissioner may choose several directions, but this aspect always marks the specific history of the originating of the building. The kind of commission and the position of the commissioner also point to typological considerations.

The author(s)

If the commission starts the originating of a building, then the commissioner is its cause. The author (designer, architect, master builder) is the one who outlines with his knowledge, purpose and, perhaps, talent the building. At first sight the author seems as a person less important where it comes to the history of art and architecture, since the object of this discipline is primarily the work of the author and not this person. In addition his alienation with the building commences with the completion of the work with regard to the intentions of the maker. From this moment on the work may be understood by others in a different way than the author had in mind. Although the author is the cause of the building, he himself is not always the most important source of information. Many buildings are anonymous or only associated with just a name with a background. Nevertheless, the author is a crucial link in the chain of the interpretation of an architectural work. Author related considerations with regard to the building include his training, professional experience and expertise, the relationship to the commissioner and the intentions and ambitions inherent in the commission.

An intermediary problem between the categories ‘author’ and ‘execution’ is the operation for its own profession (from construction hut to the architects’ office). Knowledge of this may contribute to the insights into the social status of the author, the task distribution during designing and the relationship with the executor.

The execution

Without builders there is no building. In spite of that the building company plays a less important rôle in the history of architecture, while it plays only an intermediate rôle, in a certain sense a hidden one, however indispensable it may be. Nevertheless, a minimum of knowledge of this problem is needed from a factographic viewpoint. And what is more, the possibilities of execution of the design may influence the resulting Gestalt of the building. The organisational structure of a building enterprise may be of importance for conserving and passing the knowledge of building to future generations like in the Middle Ages – where the author and the enterprise worked together – in studying the building. If in the problem of the execution the question of technical know-how is taken into account also, the significance of this contextual aspect increases. The building enterprise may be seen as the carrier of con-

See e.g.:

- Panofsky, E. (1946) *Abbot Suger on the Abbey Church of St. Denis and its art treasures*;
- Boorsch, S. (1982-83) *The Building of the Vatican. The Papacy and Architecture*;
- Ellis, R. and D. Cuff (1989) *Architects' people*;
- Dijkstra, Tj. (1991) *De kunst van het opdrachtgeven*.

The literary genres on authors most common are the monograph, the biography and the texts of the authors themselves. In addition historical studies on the profession and the education of architects are relevant, e. g.:

- Briggs, M.S. (1927) *The architect in history* (Pevsner, N. (1930-31) *Zur Geschichte des Architektenberufs.*);
- Harvey, J.H. (1972) *The mediaeval architect*;
- Müller, W. (1989) *Architekten in der Welt der Antike*;
- Severin, I. (1992) *Baumeister und Architekten. Studien zur Darstellung eines Berufstandes in Porträt und Bildnis*;
- Saunders, W.S. (1996) *Reflections on architectural practices in the nineties*;
- Pfammatter, U. (1997) *Die Erfindung des modernen Architekten. Ursprung und Entwicklung seiner wissenschaftlich-industriellen Ausbildung*.

Examples in the literature on the execution include:

- Grote, A. (1959) *Der vollkommene Architectus. Baumeister und Baubetrieb bis zum Angang der Neuzeit*;
- Colombier, P. du (1973) *Les chantiers des cathédrales: ouvriers, architectes, sculpteurs*;
- Binding, G. and N. Nußbaum (1978) *Mittelalterlicher Baubetrieb*;
- Vroom, W.H. (1981) *De financiering van de kathedraalbouw*.

temporary technical knowledge. This knowledge determines, together with that of the author, the possibilities of materialisation of the design.

c. Context of use – Typology

Utilisation function is a characteristic difference between the visual arts and architecture. Admittedly paintings and pieces of sculpture are always used as well – their museum function is relatively recent – but, the work of architecture is, in its assembled state, structurally determined by its intended use. Already Vitruvius names ‘utilitas’ as one out of three fundamental characteristics of architecture. The functional use is an essential property of architecture, but a building may lose that function temporarily – the Pantheon as a stable for horses – or forever, or get a new one. Nothing new under the sun; witness the re-construction of monasteries into hospitals, military barracks or industrial plants.

With the originating of the building the functional use is inherent in the commission. In order to consider the commission within its own ‘kind’ requires comparison with different building serving the same purpose: a typological comparison.^a The answer to the question why a building has a certain appearance may be determined by historical experience already existing (tradition) with the structure of buildings of the same kind. Next to this the ascertainment of the possible provenance of a typological solution such a comparison may also bring to light the specific contemporary expression of the function and change in the customary typology. The typological problem has dis-enfranchised itself within the history of architecture to a distinct type of study, addressing the development of the different kinds of buildings. This needs knowledge of the specific functional usage; that is one outside the discipline of architecture. In this vein the development of the theatre-type can not be understood without knowledge of the development of acting, nor the development of hospitals without the history of the medical sciences, nor the development of prisons without the history of penal law, etc. It is obvious that this type of study calls for different fields than history. Typological problems can be quite complex. Next to type-driven history the socio-economic and political aspects play a specific rôle.

Typological literature is rather many-sided. Some publications have the documentary nature of an edition of sources. Others concentrate especially on systemising the development of the blue-print of the type concerned. The more synthetic publications regard the development of the type as a whole and relate it to the historical backgrounds causing it. Typological literature may also deal with the subject within a certain territory or time-period.

d. Context of Style – Style-critical interpretation

Morphological analysis addresses the recording of the formal and structural attributes of the individual architectural work. The style-critical interpretation consists of a comparison of these individual attributes to other works; in the first instance with contemporary works, but they may be earlier or later buildings as well, depending on the aspirations of the study. ‘Reflective’ sources, theoretical writings and criticism, are important for such a comparison. In this way the historian of architecture may get insight into the prevailing or usual aesthetic norm(s) at that time and in the design toolbox. Then he can judge which position the building occupies there – he can place the building in its context. This might mean that the work conforms to that norm; which means that it is an example of a standard solution or an imitation, or copy.^b It may be that the work does not co-incide with the usual norm, while the author was looking in his work for new solutions of the design problem. It also may be that the author rejected the norm and continued to base himself on an older point of departure, or did not understand the new norm, like, for example, in some buildings of the Renaissance north of the Alps.

This enables the positioning of the work of architecture with regard to the contemporary time. It should become clear which problems and challenges characterised the profession at that time and how the architectonic ambitions and the talent of the author as embodied in the building (drawing) relate to that. The concepts ‘contemporary’ and aesthetic norm are

A general typological survey is the one of

- Pevsner, N. (1976) *A history of the building types*.

Examples of monographical-typological literature include:

- D’Amico, S. and F. Savio (1954-1966) *Enciclopedia dello spettacolo (10 vol.)*;

- Braunfels, W. (1969) *Abendländische Klosterbaukunst*;

- Thompson, J.D. and G. Goldin (1975) *The hospital, a social and architectural history*;

- Petersen, M.A. (1978) *Gedetineerden onder dak; geschiedenis van het gevangeniswezen in Nederland vanaf 1795, gezien van zijn behuizing*;

- Geist, J.F. (1979) *Passagen, ein Bautyp des 19. Jahrhunderts*;

- Wesemael, P.J.W. van (2001) *Architecture of instruction and design : a socio-historical analysis of world exhibitions as a didactic phenomenon (1798-1851-1970)*. (Formerly published in Dutch: (1997) *Architectuur van instructie en vermaak. Een maatschappijhistorische analyse van de wereldtentoonstellingen als didactisch verschijnsel (1798-1851-1970)*.)

The literature based on style-critical interpretation may vary from monographic treatment to the history of a style period. The subject of the literature might also be some elements of the interpretation, like tectonics, e.g.:

- Frampton, K. and J. Cava (1995) *Studies in tectonic culture : the poetics of construction in nineteenth and twentieth century architecture*.

The interpretation of the concept of style is part of every systematic historical study of art. See e.g.:

- Bauer, H. (1976) *Kunsthistorik: eine kritische Einführung in das Studium der Kunstgeschichte*, p. 74-80, 87-89;

- Dittmann, L. (1967) *Stil, Symbol, Struktur: Studien zu Kategorien der Kunstgeschichte*.

a Here, the concept ‘type’ is for the time being not identified with the function of use; however it should be linked to this function exclusively.

b In the practice of the study the deliberations should be more subtle. On the related problems see, amongst others, Bakos (1991) *Peripherie und die kunsthistorische Entwicklung*.

not intended here as a static moment, but as co-eval development with temporal limits determined by the theme of study. This positioning of the work within the development of architecture may be realised on different levels. It may relate to the collected works of the author himself (along the lines of a monograph), to the significance within certain territorial boundaries (the cathedral of Chartres and Gothic building in Northern France, or the 'Zonnestraal' sanatorium and the 'Nieuwe Bouwen' in the Netherlands), or to a generalist tendency along the lines of a general development (the significance of Borromini's oeuvre for European Baroque). The last example indicates that a contemporary comparison alone is not always sufficient. Borromini's oeuvre became very significant in Central Europe only a century after his death.^a

A generalist approach is the style-critical interpretation of groups of buildings in the broader context of time and place. This may lead to determining the aesthetic norm and design tool box used to realise it (periodising) within a period, style or stream of development.

With a style-critical interpretation the concept 'style' has a historically normative character. It is an abstraction of characteristics of the individual works of architecture. That is what is linking these works. The concept of style is necessary in the study of the history of architecture for identifying the collective qualities. Further explanation of the concept of style would require a separate, historically founded, exposé.^b

e. Context of the significance – iconography, iconology

Formulating the significance is here related to what is admittedly depicted by the work of art, but what surpasses the style-critically formulated visual meaning of a work of art. In the general history of art that is the field of iconography and iconology. Originally, iconography was only occupied with identification and analysis of the depiction. The concept of iconology, formulated later, implies explanation of its symbolic meaning. From the time that iconography was considered more contextual-interpretative^c, the difference between the two levels of interpretation started to become vague. Both approaches were developed by studies of medieval art and the mythology of antiquity surviving in it. Since both approaches consider the work of art, more often than not, as a carrier of meaning and content, without paying attention to its appearance, they are sometimes regarded in the history of art as one-sided.^d In the history of architecture these terms are in a similar interpretation of significance infrequently used, while they can be hardly distinguished from one another.^e

Iconography

Since architecture can hardly be reckoned to depict (mimetic) arts, iconographic study can orient itself especially on formulation and interpretation of the 'pictures' present in the building within the architectural genre. They may be architectural motives; that is to say, the shapes and details of other buildings having become independent, used as an element of composition outside of their original context (the triumphal arch, the Palladio motive, columns, the dome etc) for architectonic and / or symbolic reasons. They may also be elements originating outside of architecture, like the round windows in ships, or elements of utility structures, with an allusion to attributes.

The interpretation of the 'pictures' of other buildings concerned as a total might also fall within the iconographic frame-work. An example is the visualisation of a ruin: the ruin of an aqueduct as a folly, or a neo-medieval ruin of a castle as a hunting lodge. Other 'depicting' buildings may fit under this heading: e.g. a Chinese pagoda as a garden pavilion, or the church in Oudenbosch, The Netherlands: a replica of Saint Peter's in Rome. The shapes appropriated from outside architecture, as there are the shape of a ship or anthropomorphic ones (the follies in Bomarzo, Italy) and zoomorphic shapes (a fried chips joint shaped like a duck, see Robert Venturi) fall in this category.

Determining and interpreting the iconographic characteristics of one building is the task set to morphological analysis and style-critical interpretation. However, beyond the level of

The iconographic literature is heterogeneous and partly overlaps style-critical considerations.

- André, G. (1939) *Architektur als Gegenstand der Ikonographie*;
- Reinle, A. (1976) *Zeichensprache der Architektur.*;

specific:

- Duby, G. (1978) *Les trois ordres ou l'imaginaire de féodalisme*. (English translation: Duby, G. and A. Goldhammer (1982) *The three orders: feudal society imagined*);
- Moos, St. von (1974) *Turm und Bollwerk: Beiträge zu einer politischen Ikonographie der Italienischen Renaissancearchitektur*;
- Vogt, A.M. (1974) *Russische und Französische Revolutionsarchitektur 1717-1789*;
- Kähler, G. (1981) *Architektur als Symbolverfall. Das Dampfermotiv in der Baukunst*;
- Kern, H. (1982) *Labyrinth, Erscheinungsformen und Deutungen 5000 Jahre Gegenwart eines Urbilds* (English translation: (2000) *Through the labyrinth: designs and meanings over 5000 years*);
- Onians, J. (1988) *Bearer of meaning: the Classical orders in antiquity, the Middle Ages, and the Renaissance*;
- Schulte, A.G. and M.J. Kuipers-Verbuijs (1997) *Ruïnes in Nederland*.

- a From the end of the 17th century onward, architects from the Middle of Europe travelled to Rome in order to study the architecture of Borromini there, by that time 'old hat' to Romans, rather than contemporary buildings.
- b For the general definition of the concept of 'style' see Gadamer, H.G. (1970) *Wahrheit und Methode*, p. 466-469.
- c See e.g. Biaostocki, J. (1973) *Iconography*.
- d See e.g. H. Bauer, I.c., p. 93-99. Recently see the discussion by Eddy de Jongh of the re-edition of Panovsky's *Meaning in Visual Arts* (E. de Jongh: 'To me, this book was not less than a revelation', *De Academische Boekengids* (2000) Vol. 21, p.20).
- e See e.g. Sauer, J. (1924) *Symbolik des Kirchengebäudes und seiner Ausstattung in der Auffassung des Mittelalters*; and: Krauthheimer, R. (1942) *Introduction to an iconography of medieval architecture*.

the individual building it is an independent iconographic theme, that in its turn may serve as frame of reference for style-critical interpretation.

Iconology

Examples of the literature on iconology include:
General:

- Bandmann, G. (1951) *Ikonologie der Architektur*. p.67-109 (reprint 1969);
- Sedlmayr, H. (1960) *Architektur als abbildende Kunst*;
- Hartog, E. den (1994) *Bouwen en duiden. Studies over architectuur en iconologie*.

Middle Ages: next to the mentioned Sauer, J. (1924) and Krautheimer, R. (1942):

- Sedlmayr, H. (1950) *Die Entstehung der Kathedrale*;
- Panofsky, E. (1951) *Gothic architecture and scholasticism*;
- Simson, O. von (1956) *The Gothic cathedral: origins of Gothic architecture and the medieval concept of order*;
- Mekking, A.J.J. (1986) *De Sint-Servaaskerk te Maastricht*.

Baroque:

- Sedlmayr, H. (1956) *Johann Bernhard Fischer von Erlach*.

Modern age:

- Neumeyer, Fr. (1991) *The artless word; Mies van der Rohe on the building art*.

The formal and structural characteristics of a work of architecture may also have allegorical, metaphorical or symbolic meaning, not to be ascertained by style-critical interpretation. They can also refer to contents and meanings outside the building and architecture itself. In that case knowledge on the horizon of the contemporary world-view, on general opinions on the arts and learning, of social norms and values may provide a frame of reference for interpretation. Architectural iconology can in its interpretation also relate to symbolic meaning; and transcend the architectural genre. This is the reason why a precise delimitation between both approaches is difficult.^a However, architectural iconology emphasises the metaphorical meaning of the work of architecture (the church building as a manifestation of the ‘ecclesia’ and of the Heavenly Jerusalem, the triumphal columns of the Karlskirche in Vienna as a manifestation of the Habsburg claim to Vienna as the New Rome, etc). The traditional iconological methodology – whether it carries that name or not – is especially mature in the field of medieval and baroque architecture. Although the layered structure of allegory and symbolism has changed in the meantime this does not entail that the alluding ‘power’ of a work of architecture should have vanished. Actually, the iconological approach is continued in the interpretation of more recent buildings. Usually an interpretation like that is part of the study. The interpretation of Mies van der Rohe’s Barcelona pavilion by Fritz Neumeyer as a ‘Platonic temple’ is an example of architectural iconology of modern architecture.

7.4 LITERATURE

The literature of the history of architecture is as wide as the collected knowledge of the professional field up to now. That is the reason why a study of the literature is almost always the first step in a study of architectural history. This supposes an inventory of knowledge on the subject: it is hardly worthwhile to ‘discover’ personally what is already known. In a scientific sense this is a *conditio sine qua non*. Further study checks the literature in terms of facts and interpretation. During presentation (publication) of the study the chapter on the study of the literature, the literature criticism, should be positioned at the beginning, seen from the editorial viewpoint. The historian of architecture positions his own study in the ‘field’ of existing knowledge of the subject, while taking responsibility in terms of content and method for his study. The study of architectural history pre-supposes knowledge of genres of literature of the subject. This is a task for education or self-study.^b

7.5 REMARKS

By necessity, the preceding description of a methodology of study is succinct and schematic. There are more problems than could be mentioned explicitly. The following remarks intend to highlight some problems.

From the viewpoint of scientific systemisation, my contribution could have started in a different way. For example: “Together with the history of art the history of architecture is part of historical learning. Its object is architecture...” and next the object is described and a methodology of study derived from its properties. But, what is architecture? The historian of architecture Nicolaus Pevsner, at the Faculty of Architecture of Delft in the seventies despised, but in the world outside quite respected, once wrote: “A shed for bikes is a building. Lincoln cathedral is a piece of architecture. Almost anything wherein there is sufficient space for a man to move is a building; the term ‘architecture’ is only applicable to buildings also meant to be aesthetically attractive by the designer.”^c His dictum exemplifies the tendency of the current history of architecture: following the changes of aesthetic norms during the ages; from the viewpoint that not everything that is built carries equal importance, but mainly what characterises this development. This is certainly true in a book on the general development of Euro-

a The *Dizionario Enciclopedico di Architettura*, for instance, devotes just 11 lines to iconography, but to iconology one whole page. Portoghesi, P. (1969) *Dizionario Enciclopedico di Architettura*, p. 134-5.

b Published course-books may be helpful, like Wilk, B. (1987) *Wie finde ich kunstwissenschaftliche Literatur*.

c Pevsner, N. (1970) *Europese architectuur, middeleeuwen en renaissance*, p.13. Originally published as: Pevsner, N. (1990) *An outline of European architecture (1942)*.

pean architecture, where Pevsner expressed his opinion. From a documentary standpoint (National Trust) or the one of typology this might be different. The proposition that architecture starts where the manifestation of a building transcends its utilitarian function by its 'aesthetic attractiveness' is in daily life a handy criterion. For the practice of the history of architecture it should only be accepted under conditions.

Theoretic as well as pragmatic objections could be formulated against Pevsner's dictum. The theoretic objection mainly rests on the absolute contrast between a building as an ultimate piece of art (cathedral) and a mere contraption serving utility (bike shed). The Gestalt of a building is always completely inter-woven with the fulfilment of its usage, even in the case of a monument. 'Aesthetic attractiveness', the aesthetic function and norm have a historical character; and is therefore, subject to change. That is the reason why it is not possible in the study of architectural history to fix a nomenclatura of the buildings in terms of 'aesthetic attractiveness' as a normative a priori. The field of inquiry of the history of architecture should be open. The differences in intentions and significance of the buildings should result from the study itself. The pragmatic objections to Pevsner's dictum rest on the fact that during the most recent century and a half the production of buildings has increased considerably and that a range of new types of building on a utilitarian basis has emerged, putting into jeopardy the pre-supposed border between 'cathedrals' and 'sheds'. For the history of architecture this is associated with a widening of its domain of study.

From the problem 'cathedrals versus sheds' it is but a small step to the question 'Is architectural history a social science?'^a While architecture – buildings – caters for one fundamental basic human need: to provide shelter, the use of the 'shelter' and all problems pertaining thereto are also part of the study. Studies like that fall under the umbrella of architectural history, but even more under that of social sciences. How the result of the study contributes to the knowledge of the professional field concerned is more important. The preceding sketch of the methodology of architectural history may make clear that the social aspects of the commission, the author, the user and the construction company are needed for grasping the meaning of the work of architecture. Where an individual building is concerned, or when a typological study is involved, the history of exploitation is also of importance. The history of architecture makes good use of these data. That does not make it a social science; housing is not a house. In this regard a possible theme for study was already hinted at in 'Context of the originating', but it might as well be much broader.

It is obvious that the history of architecture has as its object of study the past of architecture. However, where does the past cease and where do actual conditions start? This is the problem of the relationship between the history of architecture and the critique of architecture. Both analyse and interpret the work of architecture and judge its quality. Added to that, the practice of architectural critique pre-supposes some knowledge of the history of architecture. The essential difference between both disciplines rests in the temporal distance with regard to the object of study. By reacting to contemporary buildings and architectural concepts the critique of architecture is part of the discussion of architecture today. Playing this rôle, the critique can not only reflect existing notions on architecture, but can also influence them. This involvement is its essential property. However, this involvement with a design of today is not the primary aim of the study of architectural history; at best a possible side-effect.^b In order to shun this type of involvement *vis-à-vis* the object of study a certain historical distancing is required. It also has a methodological advantage, since contemporary opinions are put in a context not yet visible to co-eval observers. An example of mixing both disciplines might be Siegfried Giedion, who as an historian of art was also actively involved with the present as secretary of the CIAM. His history of modernity (Time, Space and Architecture. The Growth of a New Tradition, 1941) gives, for that reason, too one-sided a view of that development.^c Each historian should draw the border-line of historical distancing for himself; as a rough estimate it could be fixed at one human generation. This does not prohibit that the

General literature:

- Hauser, A. (1951) *The social history of art*;
 - Stekl, H. (1980) *Architektur und Gesellschaft von der Antike bis zur Gegenwart*.
- Special subjects: e.g.:
- Lützel, H. (1931) *Zur Religionssoziologie Deutscher Barockarchitektur*;
 - Rosenau, H. (1958) *Zum Sozialproblem in der Architekturtheorie des 15. bis 19. Jahrhunderts*;
 - Müller, M. and R. Bentmann (1970) *Die Villa als Herrschaftsarchitektur: Versuch einer kunst- und sozialgeschichtlichen Analyse* (English translation: (1992) *The villa as hegemonic architecture*);
 - Bollerey, F. (1977) *Architekturkonzeption der utopischen Sozialisten, alternative Planung und Architektur für den gesellschaftlichen Prozess*;
 - Frommel, Chr.L. (1986) *Raffaels Paläste: Wohnen und Leben im Rom der Hochrenaissance*.

a The title of a meeting on the 'Kunsthistorisch Instituut' in Utrecht in the beginning of the seventies. This meeting seemed to be a politically engaged protest against the established history of architecture.

b See for instance the influence of the publications by Kaufmann, E. (1933) *Von Ledoux bis Le Corbusier: Ursprung und Entwicklung der Autonomen Architektur*; and of Wittkower, R. (1949) *Architectural principles in the age of humanism*.

c "We need, I think, to recognise the fact that a historian should try to escape from prejudices of his own period. If he merely sees past architecture in the terms of current aesthetics or fashion he is likely to be a propagandist rather a historian." Allsop, Br. (1970) *The study of architectural history*, p.68.

person of a historian of architecture can also be active in the field of critique of architecture and voice an opinion on today's architecture. The relationship between the history of architecture and the critique of architecture presented here is not without controversy, also because of the underlying similarities.^a

For the study of the history of architecture the critique of architecture and art offers important and stimulating source material for the history of reception, development of theory and changes of the aesthetic norm. An example of such a study is Woud, A. van der (1997) *Waarheid en Karakter. Het debat over de bouwkunst 1840-1900*.

7.6 SIGNIFICANCE FOR DESIGNING TODAY

Between the two no direct link exists. The one keeps itself busy with what has already been created, while the other creates something new. The methodology described can not be used for designing a building, but possibly for understanding an existing building better. The potential significance of the history of architecture rests in this. Since designing never has a '*tabula rasa*' for a point of departure, and never happens by the same token without some previous knowledge – also in negative sense – familiarity with what was written here influences a new design. And what is more: a new design is placed in an existing context. Consequently, a certain knowledge of that context might be useful; sometimes it is required.

To put it concretely, this means that the result of the study of the history of architecture can provide background information on design decisions; as there is knowledge on the typology of architecture and usage and the information on provenance and significance of architectural shapes and motifs. Since the use of typologies, and particularly, the one of architectural motifs is always culturally biased, knowledge of the past is important at the time of a design decision. Of course the designer is at liberty in his selection of utilising this knowledge; it should not have to agree with the mind-set of the study. In the case of restoration and renovation the study of architectural history plays a more direct rôle in solving the problem.

Generally, one may state that knowledge of the past of one's own personal field of professional experience contributes to the 'Bildung' of the designer. It is useful in a way that can not be made clear in advance. In contrast to a medical doctor or an electronic engineer, working in the profession of an architect entails a specific view of the past. Culturally, architecture is not getting better and better, but more and more different. That is the reason why her past can return, time after time, and influence designs of today.

a Compare Dresdner, A. (1915) *Die Kunstkritik: ihre Geschichte und Theorie*, p.9-10 and Venturi, L. (1972) *Geschichte der Kunstkritik*, p.31-33. Originally published as (1936) *History of art criticism*.