

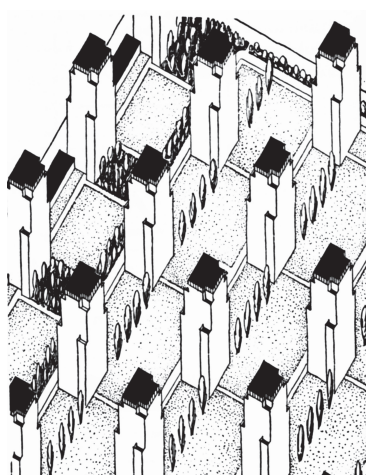
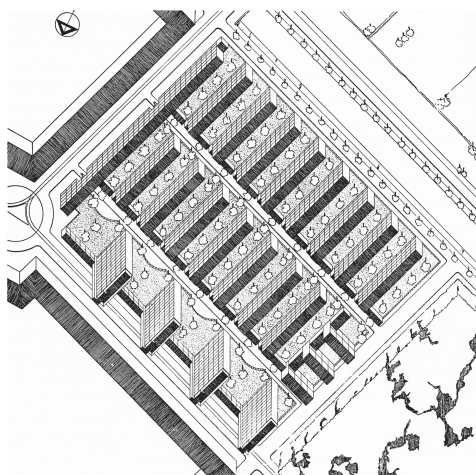
13.1 HOW TO GIVE FORM TO A DESIGN

We have been told for a long time that form follows function. Functionalists, in particular, held this view. But, if function directly generates the form, why, then, are there often many different solutions for one assignment?^a Even when functionalism was in its heyday, one single assignment would result in a series of multiform designs, as demonstrated, for instance, by the results of the competition for low-cost working class housing in 1936.^b These differences may be partly due to difference in insight, or interpretation of the assignment. If the differences between the designs were solely due to a different interpretation of the assignment, then, with the same interpretation of the same programme, the resulting designs would have the same form. The question remains: how does the programme generate form or, more specifically, how does the form of a bedroom follow from the function sleeping?

A functionalist will explain that this form is the result of careful analysis of all the activities that are part of the function sleeping. The dimensions and areas that follow from this analysis should lead to the ideal form of the bedroom; this also applies to kitchen, living room, etc. The result is a number of rectangular boxes that, together, fit overall dimensions. A sort of minimal envelop, not yet an architectural solution. For instance, what is wrong with the bedroom that Goff, the architect, designed for a house in Aurora (Illinois)? Why would this bedroom, placed in a quarter segment of a sphere, not follow the function?

The reasoning that form automatically follows function disregards two phases in the design process.^c First, there is the phase of interpreting the assignment, as was mentioned. Then, there is the phase in which form and spatial arrangements are determined. In both these phases the architect makes active choices.

The first essential choices are made at the interpretation stage of the assignment and when developing a view of the project requirements in relation to the location. In many cases, certainly in the past, interpretation of the assignment was self-evident. The approach was mainly conventional: a certain project at a certain location should be handled the established way. That is how it was taught at the academy, or the way it had been done for years in a certain region. However, increasing complexity of assignments and current construction methods require a personal interpretation, based on an underlying principle, vision or concept. The notion 'concept' is further discussed below.

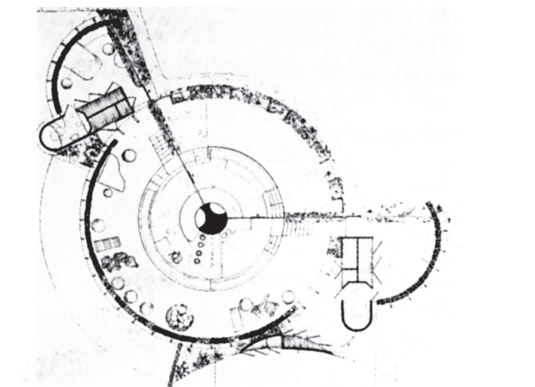


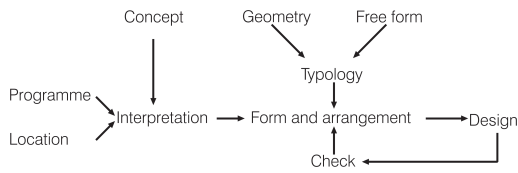
13.1	How to give form to a design	107
13.2	Recurring principles of spatial arrangements can lead to the use of 'type' solutions	108
13.3	The concept has no form	108
13.4	The classic system put to the test	108
13.5	The concept organises design choices	109
13.6	A concept may be presented in different ways	109
13.7	A house of steel, wood, or stone	110
13.8	A 'powerful' concept pervades a design into the details	110
13.9	The type, three theatres as example	112
13.10	The idea of type shifts between word and diagram	112
13.11	Type according to Quatremère de Quincy	113
13.12	The typological transformation of the articulation of the site	114
13.13	Twiske-West, the transformation of a residence type	115
13.14	The combination of two residential types	115
13.15	Relation between type and concept	116

- a The idea that the assignment generates the form has also kept a whole generation of CAAD specialists busy.
- b Ottenhof, F. (1981) *Goedkope arbeiderswoningen (1936)*.
- c Please note that Sullivan with his tenet that form follows function did not mean that the form automatically follows from the function. In his view, one should choose the form which best fits the function. Sullivan, L. (1956) *The autobiography of an idea (1924)*.
- d Photograph: Jan Molema. Source: Archis (1996) nr.6 p.21.

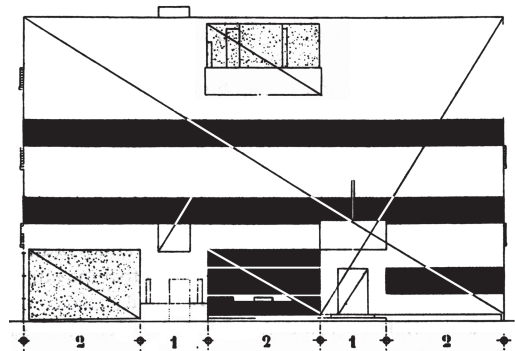
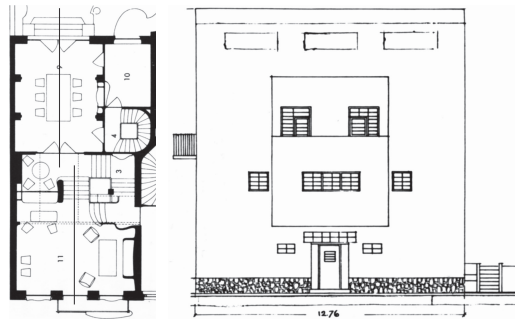
68 Contest submissions for cheap labour housing Van den Broek (left) en Van Lochem (right)^b

69 House in Aurora, designed by Goff. The bedroom is situated in the top half segment of the sphere^d





70 Schematic representation of the phases and influences in the design process



71 Horta, floorplan with shifted axes, private house. Loos, front façade *Haus Möller*, Le Corbusier, front façade *Villa Stein*, Rietveld, *Schröderhuis*, open corner.^e

a Vitruvius and M. Morgan (1960) *Vitruvius: The ten books on Architecture*, p.17.

b Leupen, B.A.J. and N. Bisscheroux (1984) *Interview met Rem Koolhaas*, p.51.

c Zaera, A. (1994) *Incorporating: Interview with Jean Nouvel*, p.17.

d Kaufmann, E. (1955) *Architecture in the age of reason*, p.75 a.f.

e Sources respectively: Catalogue with the Horta Museum, Risselada, M. (1988), Rowe, C. (1982), Overy, P. et. al. (1992).

13.2 RECURRING PRINCIPLES OF SPATIAL ARRANGEMENTS CAN LEAD TO THE USE OF 'TYPE' SOLUTIONS

Once the interpretation has been made, the spatial arrangement and the decision on the form will, in broad outlines, be developed by a process of searching for solutions, making assumptions and testing results. Searching for a main principle for the spatial arrangements and for a form where it is assumed that there will be a fit to the assignment, and then testing the results as to how these work in practice. For centuries, the same criteria guided this process. Vitruvius spoke about 'durability, convenience and beauty'.^a

The form can, in principle, be derived from geometry or from nature, in the last instance reduced again to geometrical form. If principles of spatial arrangements or form structures keep recurring, this may indicate use of a 'type' solution. From experience, we know that certain forms, schedules or models are more useful than others. In particular, when there is repetition, or when project requirements are very strictly defined (housing, theaters, prisons, etc.), the same principles recur regularly.

13.3 THE CONCEPT HAS NO FORM

In recent decades, the notion 'concept' came to achieve a prominent position in architectural theory. What does 'concept' mean in relation to architecture? Before addressing this question, I will first indicate why a concept plays such an important rôle in present-day architecture. In an interview Rem Koolhaas said this:

"I find the notion of 'concept' very difficult. When I, myself, was teaching, I found it difficult to explain what a concept is, and whether it is necessary. Today, I find it an absolute necessity. The concept is the theme on which the design is based. One can sum it up in one sentence. It can be very primitive, but it is still a test of your design"^b

Nouvel states on the subject:

"I am always able to describe with enormous precision any of my projects in five written pages. It simply happens like that, and it is essential. But, at the same time, there is a moment in the process where the argument is there and I have no longer the need to keep talking about it, because the essential point is to fix the concept. This is the moment when, through a sort of miracle, other things will be produced. The work becomes more plastic; memory and attention take over."^c

From Renaissance to the end of the nineteenth century, concepts, as we view them now, had no significant rôle. The discussion concerned primarily correct style. When discussing style, one usually thinks in the first place of appearance, the form of elements used and differences in decoration. However, a second, underlying system with regard to style can be discerned. The art historian Emil Kaufmann calls this system the 'architectural system'.^d It delineates the structure of the designs attributed to a particular style, the way in which the elements are assembled and spatially arranged, and indicates which set of instruments has been applied. Spatial arrangement and composition of buildings were to a large extent determined by the prevailing architectural system. Until the beginning of the nineteenth century, the underlying system was hardly ever discussed.

13.4 THE CLASSIC SYSTEM PUT TO THE TEST

Around the 1900s, several architects began to work on fundamentals of the system. Horta queries symmetry, Loos attacks ornamentation, Le Corbusier redefines the classical rules for composition, Rietveld and Mies van der Rohe open up spatial arrangement.

Thus, slowly, but surely, a new form of architecture was developed, typified by absence of a coherent architectural system. Le Corbusier also, using the 'five points' and the 'Modulor', did not manage to create a new and generally accepted architectural system. Although elements of the classical architectural system can be found in many creations of modern

architects, the programme is now the basic issue. While transparency, apparent weightlessness and machine aesthetics form the basic idiom of the Modern Movement, each new design seems to be seeking its own identity, its own concept.

13.5 THE CONCEPT ORGANISES DESIGN CHOICES

When one common view still dominated the architectural system, the architect had a clear set of rules while making the numerous architectural choices with which a designer is confronted, choices about dimensions, proportions, rhythm, spatial arrangement, composition, structure, use of materials, etc.

That each design needs its own legitimacy or concept, is not only the result of the urge for innovation amongst architects, but also of the growing complexity of building specifications and materials and building techniques now available.

A concept does not have to be decisive about the form of the definitive design. It expresses in first instance the overall idea, the character and direction in which the solution is to be found. The concept expresses the basic thought behind the design, it gives direction to design choices and, at the same time, excludes alternatives: in a way, it organises the design choices.^a

13.6 A CONCEPT MAY BE PRESENTED IN DIFFERENT WAYS

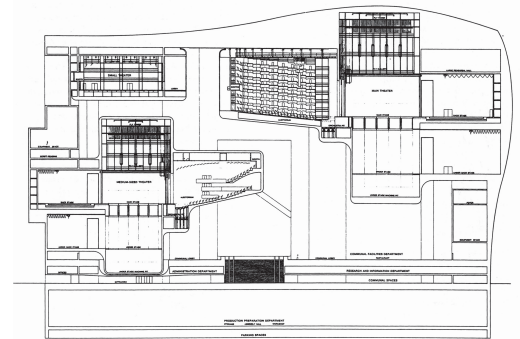
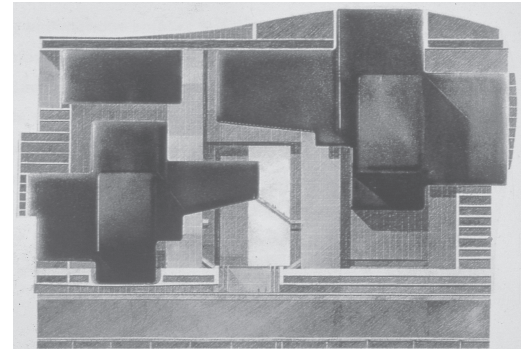
A concept may be presented in various ways: in a scheme, by visual images, in words. The procedure at the office of the French architect Jean Nouvel can serve as an example and illustration. Before the first line is drawn on paper, extensive discussions are organised between designers and specialists on sub-areas. Drawing is only allowed to commence when a description of the project – a concept – is clear to the mind's eye. This procedure pre-supposes wide knowledge of possibilities and great power of imagination.^b

An example of such a verbal concept is the concept of the design of the Prize for an opera house in Tokyo (1988) designed by Nouvel. As the result of a series of discussions within the office a leading metaphor was chosen: a vast travel case of a musical instrument. On the outside the building should have a smooth black skin; on the location of the great hall it should have a slightly bulging surface. On the inside golden-hued auditoriums were placed in space, like instruments in a case.

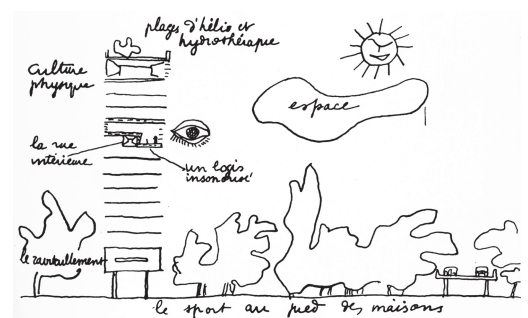
The risk of a metaphoric concept lies in taking the metaphor too literally; for instance a hamburger joint in the shape of a hamburger. That may be funny briefly, but does not generate interesting buildings. While designing on the basis of metaphor the difficulty is to maintain a sufficient level of distance from the literal interpretation.

Le Corbusier condensed the 'Unité' concepts – several concepts form the basis of the work – to two sketches, where points of departure like light, air and space, view, the pilotis and the roof-garden may be found back.

Along the same lines functionalism may be conceived of essentially as a concept: 'form follows function' is a discourse guiding the subsequent design decisions. Although an analysis of the programme of requirements does not result automatically in selection of a shape and certainly does not generate a shape – like functionalists pretend – functionalism obtained for itself via the metaphor of the machine-aesthetics a language of shapes.



72 Nouvel in co-operation with Starck, design for an opera house in Tokyo, model and cross-section.^c



73 Le Corbusier, sketch of the concept of his 'Unité'.^d

a Leupen, B.A.J. and C. Grafe (1997) *Design and Analysis*, p. 13. Originally published in Dutch: Leupen, B.A.J., C. Grafe et al. (1993) *Ontwerp en Analyse*.

b Leupen, B.A.J. (1989) *Een nouvel concept*, p. 85.

c Source: Leupen, B.A.J. and C. Grafe (1997)

d Source: Samonà, A. et al. (1976)