Structuralism Reloaded. Rule-Based Design in Architecture and Urbanism

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Originally developed in linguistics, the structuralist approach has been introduced as a scientific method in anthropology and other human sciences since the 1950s. In the 1960s and 1970s the double category of primary and secondary structure (langue and parole), essential to structuralism, in which the primary structure's system of rules determines how the secondary elements are placed in relation to one another, also advanced to a leading ideology in the field of architecture and urban planning. From its development in the Netherlands and within the Team 10 circle of architects, structuralism in architecture quickly spread worldwide. Since the 1990s we have been witnessing a revival of structuralist tendencies in architecture. Whereas the structuralism of the 1970s encountered limits in complexity that were insurmountable at the time, today there is much to suggest that the return to structural thinking is causally connected to information technology, which has opened up new possibilities for dealing with complexity.

In the field of digital architecture there is talk of neo-structuralism. The question arises as to whether primary and secondary structures of the 1960s should be understood today as being in a state of complex interactions with one another that could be described through algorithms. The current interest in design methods based on rules makes the structuralist approach one of the most productive and comprehensive methods for the organization, design, and production of the built environment. At the same time, it provides the systemic and meta-theoretical background for all disciplines involved in the production of space.

This book is a collection of 47 articles by renowned authors including, among others, Roland Barthes, Koos Bosma, Jörg M. Gleiter, Herman Hertzberger, Arnulf Lüchinger, Winy Maas, Sylvain Malfroy, Hashim Sarkis, Fabian Scheurer, and Georges Teyssot. Through well-founded theoretical contributions, the book provides the first comprehensive representation of historical and contemporary digital structural thinking in architecture and urban planning.

Tomáš Valena studied philosophy, art history, architecture, and urban design in Munich and at the Cornell University in Ithaca, New York. He has taught in Ithaca, Munich, Vienna, and Ljubljana and is currently professor of design and urban design at the Munich University of Applied Sciences. Tom Avermaete is associate professor of architecture at the TU Delft. His research concentrates on issues related to public space and public buildings, the architecture of the city and Modernism in non-Western contexts. Georg Vrachliotis is research fellow and postdoctoral teaching assistant at the Institute for the History and Theory of Architecture (gta) at the ETH Zurich and guest lecturer of architectural theory at the TU Vienna. His research focus is the history and theory of postwar architecture.
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At the moment structural thinking is part of the mainstream of architectural interest. Since the rapid and triumphant advance of digital drawing and design tools, work is obviously being done, belatedly, on laying a theoretical foundation for the profession’s new stance. In the process, theo-
rists look not only forward but also backward for confirmation, as is usual in a time of upheaval, suggestively once again the significance of this new era. In colleges and universities everywhere people are working on structural issues, and architectural journals are publishing special issues on relevant topics. The Netherlands Architecture Institute in Rotterdam is preparing an exhibition on structuralism and, following the Munich symposium, three additional conferences on similar topics have already been held, in Bozeno, Kaiserslautern, and Zurich.5

This book is a collection of contributions to the Munich symposium. Many of the texts were deepened and developed further in subsequent, sometimes very involved discussions. Never-
theless, the editors did not strive to bring into line the often widely differing positions of individual authors. Thus, an authentic picture of the current status of the discourse on structural thinking in architecture emerges. The symposium contributions have been supplemented with a number of articles that were commissioned separately to adequately cover the broad spectrum of structural thinking.

Structural Thinking in Architecture Based on Apperception and Active Shaping of the World

We often speak without much thought of rules, order, or even laws in architecture, of structure and system. But what do these abstract terms mean? Where do they come from? Without going into the individual etymological derivations in more detail, it may be assumed that, like all other abstract terms, these terms were developed from a concrete spatial experience and apprehen-
sion (Anschauung). Furthermore, the terms historically developed at a time when that which was looked at was not only recognized, but actively used and grasped [the German word for term or concept is Begriff, related to greifen, to grasp, Transs]. Thus, the Roman repons (German Repons) was initially the lath or stat that had been used as a ruler, as a measuring stick, before it became the abstract rule. The Latin onto advanced from the root of threads in a loom to sequence and fi-
nally to order as such. Structure, too, was initially simply the masonry and consequently the entire building. The mason in ancient Rome was therefore a structurer, because he fit together the bricks to form a wall according to a specific set of rules. We ought not to lose sight of this haptic, mater-
ial origin of abstract concepts, even if we now take it for granted that we describe structure as an immaterial rule, as an invisible law that places the elements of a system in relation to one another.

It is notable that every one of the terms referring to order and structure is associated with the active shaping of the human environment. If we agree with Gottfried Semper and his theory of the textile origin of architecture, all three key terms mentioned above even come from the narrower field of building construction. This is not surprising, seeing that building is the oldest and most comprehensive manual skill and craft for shaping the world. It is part of the core of architectural theory that has been handed down to us that structural principles used in building were originally copied from nature. The translation of natural models into the work of man is done by means of abstraction, with the help of a concept of structure. In describing the origins of architecture or, more abstractly, the development of the idea of the enclosed space of the house from the natural model of the cave, the British architect Stephen Gardiner characterizes this achievement of the first builders as follows: “What they did was observe the minimum structure required to make space” and “to extract the essentials from a hole in a rock and reproduce them as an isolated building. The mason in ancient Rome was therefore a structurer, because he fit together the bricks to form a wall according to a specific set of rules. We ought not to lose sight of this haptic, mater-
ial origin of abstract concepts, even if we now take it for granted that we describe structure as an immaterial rule, as an invisible law that places the elements of a system in relation to one another. The world we are given is structured. We first experience its structure as a category of physi-
cal space. That is why structural thinking is the original domain of the discipline of architecture – which shapes space – and that is why it is inherent to building. Designing according to a rule, ac-
cording to a preconceived model, is one of the elementary, archetypal activities of building. “That this is not merely an excessively powerful profession’s overestimation of its own abilities is shown by general usage, which cannot manage without spatial, architectonic metaphors when-
evolve complex systems and structures are involved. “When the human intellect organizes a series of ideas,” says art psychologist Rudolf Arnheim, “it almost always uses spatial ideas.”6 Kant, too, uses a spatial, even an architectural image, when he describes “the art of systems” in his Critique of Pure Reason. And philosophers fall back on an intellectual edifice when they are trying to de-
scribe a system of ideas that is logically structured in itself.

4. Structure, Aino Aalto, model wall in his own vac-
cation home in Muuratsalo. (Photo: Tomáš Valena.)
5. November 20, 2009. (Photo Sandra Räni.)
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I belong to the generation who, as students, witnessed the intellectual environment of structural-
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Beatles in those days. But the world proved too complex to be controlled by the means that
were available at the time. Eventually, the ideals of the sociopolitical and urban planning utopias
of the period were thoroughly driven out of us, and an era of dry pragmatism followed.

Then in the mid-1990s, in the wake of the European 4 competition at the latest, we picked up
our ears again. Apparently a new generation of architects with a new set of tools had taken up
something on which we had foundered earlier. Since that time, digital tools have pushed the lim-
its of complexity to the far horizons of the possible, and thus today we are once again seeing
globalization everywhere a goal-oriented, often somewhat naïve optimism in the belief that anything is feasible.

Thus, it seemed justified to investigate the changes and/or the continuity of structural and
rule-based thinking and its related architectural and urban planning output, referred to in the
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To define structural thinking in architecture and the phenomena resulting from it, it is helpful to name the ‘Other’ of what is structural and rule-based, in accordance with established phenomenological methods. Thus, we might say that the opposite of what is rule-based is the accidental or spontaneous. With the physicist and philosopher Max Born, we might also speak of redundancy as a regularity versus innovation. The dual antithesis of type and topos (in the sense of place) introduced in architectural theory also quite aptly describes the Other of structural thinking. “If type means what is general, then topos means the individual, the specific, and unique. While type has no limits, topos is a place so specific in terms of place and time that it is almost impossible to introduce”[5].

It appears, however, that in the history of architecture, although, of course, to varying degrees depending on the state of the ever-changing influence of the environment, the term systems theory: cybernetics, information theory, catastrophe and chaos theory, and the fundamental antithesis between analog and digital, the two basic ways of being-in-the-world[6].

According to this dual reading, structural thinking is present in every conscious act of architecture, although, of course, to varying degrees depending on the state of the ever-changing influence of the type and topos on the architecture of the times[7]. However, in the history of architecture there are also pure phenomena that can be assigned entirely to rule-based structural thinking. These phenomena have an impressive tradition that is as old as planning itself. Style architectures, for example, with its codified systems of various orders of columns, belongs in this category and has been widespread in time and again. The science of proportion, which is based on the concept of mathematics, led to the idea of measurable beauty in architecture, an idea that was prevalent until the modern age. Thinking and planning in grids has been part of the common knowledge of architecture at least since the introduction of the Hippodamian system by the ancient Greeks in the Peloponnesian war. The grid and typology are design tools consciously used in classical architecture since antiquity. Their use reached a proportional peak in Jean-Nicolas-Louis Durand’s typology theory.

Now that we have postulated the primacy of structural thinking for architecture and described the invigorating and conceptualizing special position of the space-related disciplines, we can take a moment to consider the development of systems thinking and structural thinking outside architecture.

Mathematics – algebra and geometry – came about as the result of practical requirements in ancient civilizations. Mathematics gradually developed into what is the most abstract numerical and topological system for describing reality. Based to a large extent on mathematical methods and models, the natural sciences also developed as scientific subsystems for investigating and describing various partial aspects (physics, chemistry, biology, geology) of measurable reality (animate and inanimate nature).

In the second half of the 20th century, and particularly since the 1960s, driven by the need to deal with the complexity of modern mass societies, structural research intensified and led to the formation of new scientific fields subsumed under the terms systems theory and structural sciences.

The term structural sciences was coined in particular by Carl Friedrich von Weizsäcker in the 1950s and 1960s as a metacriterion for individual sciences such as mathematics, logic, informatics, cybernetics, information theory, catastrophe and chaos theory, and the theory of complex systems, or the sociological systems theory of Niklas Luhmann.

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However, the first discipline to develop structural thinking into a (structural) science was structural linguistics, as already developed in a rudimentary form before World War I by the Swiss linguist Ferdinand de Saussure. He investigated the rules and conventions that underlie individual linguistic expression. By distinguishing langue (language) and parole (speech), he introduced the double category of signified and signifier, which the second author of this book will bring into relation with each other by the primary structure’s set of rules. In the period between the world wars, de Saussure’s ideas were picked up and further developed, on the one hand by, the French structuralist semiologists, who introduced order relations of structures, and on the other hand, by the structuralist school of Prague under Roman Jakobson, Jan Mulátkovský and Nikolaj Trubetzkoy. After World War II, it was primarily the French ethnologist Claude Lévi-Strauss who, inspired by ideas of systems thinking, developed his structuralist approach. During the 1950s and 1960s, the structuralist approach, which tries to explain observable surface phenomena by deeper structures, advanced to become the central method in the humanities. But in the final analysis, structuralism in areas such as linguistics, ethnology, and anthropology was prompted by the desire to introduce scientifically demonstrable methods in the humanities to land them the legitimacy enjoyed by the natural sciences, which were perceived as “objective”[14].

We have seen that structural thinking and acting is, on the one hand, inherent to architecture. On the other hand, in the postwar period systems thinking and structural thinking had intensified in all areas of intellectual and social life. In the 1960s structuralism was firmly established in the humanities and social sciences, and its significance was generally recognized. In the 1970s the term structuralism was also introduced in architecture. The history of how the term structuralism was adopted in architectural discourse has not yet been settled beyond doubt. It appears, however, that in the early 1970s around a large part of architect’s thinking had been directed towards developing a new structuralism concept in use in linguistics and anthropology, although it was very familiar, particularly in such circles as Forum and Team 10 which saw itself as a study group investigating “relations between structuralism and architecture”. Both groups adopted the term and context of structuralism.

In any case, it should be noted that “structuralism” in architecture was initially not the name used by representatives of the movement, but was introduced only much later and from the outside as a general label for certain phenomena in architecture and urban planning during that period. This is also one reason that many architectural historians (particularly in the Netherlands) have been fighting this “label” as a description of an architectural movement and are still fighting against it today. However, a subsequent “inappropriate” designation of a similar attitude, art movement, or “style” imposed from the outside tends to be the rule rather than the
and in mat-building, often the concept of superimposition or elevation from the
Wim van Heuvel, an active member of Team 10, he gave Dutch structuralism an "ethno-
However, there is still confusion regarding the different
also provided essential stimuli. In
Presumably inspired by structuralist eth-
congruence. That is also why the "scientific nature" of structuralism in the humanities cannot

Moreover, those who want to measure architectonic structuralism in relation to the struc-
sions that still need to be investigated.
the magazine 
the Child, the City and 

For the most part, the following characteristics are mentioned in contemporary literature as
discovering main features of structure/structural architecture and urban planning up until well into the 1980s:
9. Le Corbusier, Fort l’Empereur project, Algiers, 1919–24. (Winfried Lüchinger, Structuralism in Archi-
10. Le Corbusier, immuikes-Villa, project, 1952. (Le Corbusier, 1922, Ausblick auf eine Architektur, Bauschu-
12. Piet Blom, Noah’s Ark project, plan of a district unit, 1962. (Aldo van Eyck, The Child, the City and the
11. Cover of Bernard Rudofsky, Architecture with-
185.)
10.

most authors writing about structuralism in architecture are confronted with the need to
to his last, purely structuralist project for the hospital in Ven-

6. The return to "structuralist precursors" in historical architectural history definitely had a certain tradi-

Aldo van Eyck was without doubt the central figure in the early days. As one of the editors of
nology and anthropology, an Architecture without Architects26 also provided essential stimuli. In
Aldo van Eyck, still the face of Dutch structuralism today, probably achieved the second most important "incubation" of structuralism in the Netherlands. With the work of
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This "confusion" of terms. It will be all the easier the more resolutely we start out from an original,

Moreover, according to Eckhard Schütte-Lefitz, the specific philosophy of metabolism in the work of the Japanese metabolists, or the structural grammar of the theoretical work of the project’s architect.

the course of several journeys, Aldo van Eyck studied Dogon villages in northwestern Africa as

to various projects for mat-building, to his last, purely structuralist project for the hospital in Ven-

As far as structuralism in architecture is concerned, we are today confronted with a peculiar situation. On the one hand, the term has been introduced and is understood worldwide, and there is general agreement as to which buildings and projects can be classified as structuralist.
The term was launched in the 1970s, was picked up by many authors and found its way into the architectural histories of the 20th century.4 However, there is still confusion regarding the different nature of structuralisms in the humanities and in architecture, an issue that the Munich sym-

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Although based on very different philosophical premises, Japanese metabolism arrived at rather similar results structurally, as can be seen, for instance, in the Nagakin Capsule Building by Kisho Kurokawa (1970–1972). The Italian group Archizoom quite obviously followed other goals, but it too organized its ironically intended endless artificial landscapes on the basis of structuralist conventions.

The structuralist principle of the supporting primary structure and in-filled secondary elements is perhaps most purely executed in the special category of the spatial cities or the “flying carpets.”

The poetic drawings of the Ville Spatiale by Yona Friedman always show a primary spatial framework with flexibly inserted residential cells suspended above the site.

This utopian idea was very seriously pursued in Germany in particular. Constructively emphasized designs of spatial cities were made by architects such as Eckhard Schulze-Fielitz; Richard J. Dietrich’s Metastadt was one of the rare realizations.

The spatial city expanded the structuralist theme of carpet development, the flying carpet, layering and superimpositions, moving toward genuine 3D developments such as residential hill or large-scale tree structures.

It is also illuminating to review several research projects from this period from the perspective of the structuralist approach. Especially rewarding here is A Pattern Language by Christopher Alexander, who laid the theoretical foundations of participatory structuralism with his work on user participation through the use-neutral, flexible primary structures that could be filled by the individual user.

Team 10’s members Alison and Peter Smithson experimented with the principle of the layering of various types of transportation, visible already in their contribution to the competition “Hauptstadt Berlin” in 1958. This project presumably influenced Constant Nieuwenhuys and his New Babylon studies, with their netlike sectors fit to one another and floating above the ground. Georges Candilis, Aleksis Josic, and Shadrach Woods executed the mat-building of the Free University in Berlin (1963–1973) as well as the Toulouse-le Mirail development (1961–1974) with its stem structure. A connection can also be established between these architects and Le Corbusier in his late structuralist phase. Team 10 member Stefan Wewerka designed residential developments of linear rows “fortified” with towers and the structuralist approach was widespread in urban planning competitions in the Federal Republic of Germany during the 1960s and 1970s. In the 1960s and 1970s, the 20th-century’s second utopian heyday, there were hardly any utopian movements that were not touched by structuralism. The Plug In City (1962–1964), conceived by Archigram member Peter Cook, attains an almost iconic character for structuralism. Here progress-embracing, high-tech pop architecture made use of the structuralist principle to combine durable concrete bearing structures with industrially prefabricated throw-away residential cells.
in 1995. The varied proposals for carpet developments and mat-buildings recalled pro-

Despite the differences, it was obvious that

of the German Democratic Republic, as well as in elegant

of the early twenty-first century differs not only from

be understood as a method for revealing the “genetic code”, the original primary

(dividual, of artistic decision. In this context we can recall Constantin Doxiadis’s ekistics,

out since 1968 by Frei Otto and others within the Sonderforschungsbereich (Collaborative Re-

We must likewise consider the extent to which research on self-generative structures, carried

19. Christopher Alexander, A Pattern Language. A system of reciprocal references among the patterns forms a complete primary structure, which puts the 231 patterns in relationship to one another. The morphological-

A differentated system of reciprocal references among the patterns forms a complex primary structure, which puts the 231 patterns in relationship to one another. The morphological-

typological way of looking at city and territory, introduced by the work of Saverio Muratori and his “school”,

It was the great era of normative systems, of serious (often dogged) attempts at (numerical)

A Pattern Language. (Colloquial Research Center) 230 “Natural Structures – Lightweight Structures in Architecture and Nature”

The so-called digital “neo-structuralism” of the early twenty-first century differs not only from its precursors in the 1960s, but also from the forms of the revival of structuralism in the 1990s.

Many of its protagonists appear to have neither a historical knowledge of classical structuralism nor any interest in the theoretical foundations of the emergence of the primary structure to elements that were hierarchical and not integral to the system, or even ultimately arbitrary. There was a

This hubris was shattered in the 1970s by the then-insurmountable limits of complexity.

Structural Tendencies Since the 1990s

Since the 1990s we have been seeing an increased interest in structuralist approaches in archi-
tecture and urbanism. Although the structuralist tradition presumably never ended completely in the Netherlands, in the rest of Europe it was taken up anew no later than the Europan 4 com-
petition in 1995. The varied proposals for carpet developments and mat-buildings recalled pro-
jects of the 1960s and 1970s in a striking way.8 Since the differences, it was obvious that you

young architects had again turned their interests to rule-based design methods. The primary

conscious confrontation of an overdetermined system with intruding or even irrational elements

is seen, for instance, the low-rise housing project by Sejima or the placement of the Philological

Library in the mat structure of the Free University of Berlin by Norman Foster from 2003). Parallel to this revival, interest in the utopian aspects of structuralist currents in the 1990s also increased.

In the search for inspiration since the turn of the new century, a continuous series of publications,

exhibitions, and symposia have looked at the unique mixture, often playful and even sometimes

explosive, of faith in technology and the future, addiction to pleasure, and utopian social ideas

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Thus, the question arises to what extent the new themes and phenomena, and the current ambiguous concepts of digital design, represent something completely new or may be interpreted as the further development of the structuralist approach. Of course, there is no longer talk today of primary and secondary structure but rather of the algorithmic, parametric, interactive, and evolutionary (even genomic). Naturally, these can all be combined under the heading “rule-based”, where certainly the structuralist approach and older rule-based design methods can also be subsumed. Let us, then, try to “demystify” the new terminology and thus penetrate to the core of its meaning. The deterministic algorithm can be compared with a set of instructions (like a recipe, assembly sheet or a cooking recipe) which puts the ingredients or building elements into a relationship with one another through multiple sequential steps, so that the same result always comes out at the end. Although more complex than the primary structure of a simple orthogonal grid, which organizes the position of the individual infill elements, the algorithm remains essentially a system of rules. If the individual elements can be varied by us in size, shape, or arrangement and the overall result changes accordingly, then we could refer to a “parametric algorithm”. If we moreover, make it possible for the individual elements to react (cybemetically), according to certain behavioral rules we implant, to changes in the other elements, or to the overall system (the environment), we could speak of an “interactive parametric algorithm”. Although the complexity can be increased that way almost beyond bounds, this “evolutionarily” developing algorithm can still be characterized as a dynamically evolving rule (evolutionary matrix), which sets in a dynamic way the position and the characteristics of the elements in relation to one another. Ultimately, everything that can be programmed follows a rule, no matter how complex; it is rule-based. In the structuralist terminological tradition, this rule was called language – deep or primary structure. Whether one searches analytically among the world’s existing or manmade structures for this rule, which forms the basis of the surface phenomena, or one works “poetically” (i.e., designing and building something new according to a rule), it is rule-based practice and one is, in the words of Barthes, performing a structuralist activity.45 Only on this level does it seem meaningful to talk of there being a renewal of the structuralist project, of a continued development from the old primary structure to algorithm.

The current massive return to the term and thus also to the phenomenon of structuralism is on this level that an attempt can be made to place these various phenomena of a structural, rule-based architecture in the context of a history of ideas.

1 http://www.architektur cheeses.de/aktuelles/strukturalism_e.de.html. See also the catalogue for the symposium.


4 Rudolf Arnheim, Das Dyanmik der architektonischen Form (Cologne, 1963), 278.

5 “Ich verdanke eine Architekturstechnik der Künstler. Weil die systematische Einheit dargestellt ist, was gemeint Erkenntnis allemal der Wissenschaft ist, d. i. aus einem bloßen Aggregat deswegen eine System macht, so ist Architektur die der Erkenntnis.” Immanuel Kant, Kritik der reinen Vernunft, Zweite Auflage (Frankfurt am Main, 1969), 635. “By an architectonic I understand the art of constructing systems. As systematic unity is what first raises ordinary knowledge to the rank of science, that is, makes a system out of a mere aggregate of knowledge, architectonic is the doctrine of the scientific in our knowledge, and therefore necessarily forms part of the doctrine of method.” Immanuel Kant’s Critique of Pure Reason, trans. Norman Kemp Smith (New York, St. Martin’s Press, 1948), 653.

6 “and regarding the One in Architectural (Blanks, Ernst and Sohn, 1904), 15.


autonomous sources of its own discipline of spatial construction. However, to avoid confusion, the term should not cover unnecessarily far from the definition originally developed in linguistics. Roland Barth’s basic description of structuralist activity, which refers to the underlying rule, could again be helpful here. The definition will revolve around the rule, the deep structure, the primary structure that assigns the separate elements (whether standardized or individual) their position and thus places them in relation to one another. Structuralist activity, inherent to architecture, allows us to build a bridge not only between the heroic phase of structuralism in the 1960s and 1970s and today’s new structuralism, but also to related phenomena in building activity overall. It is on this level that an attempt can be made to place these various phenomena of a structural, rule-based architecture in the context of a history of ideas.

27. Iasia construction manual.

Saas, e. g., Sylvain Malfoy, Gianfranco Caniggia, *Die morphologische Betrachtungsweise von Stadt und Territorium. Eine Einführung in die Terminologie* (Dortmund, 1969). Cf. also the contribution of Sylvain Malfoy in the present publication.


Cf. the contribution by Bamhard Langer in the present publication.

On the topic of standardization and individually cf., e. g., Max Mengenighaufen, *Komposition in Raum. Die Kunst individueller Baugestaltung mit Serienelementen* (Göttingen, 1983).


See the contribution by Peter Betsas in the present publication.

See the contribution by André Huisman in the present publication.


This rather weird term is, of course, not in use in the field but illustrates the successive increase in complexity of the interlocking systems of rules.

E. g., the Advanced Geometry Unit (AGU) of the firm Arup, founded in 2000 by Cecil Balmond, or the company designtoproduction with Fabian Scheurer and Arnold Walz.

Cf. e. g., Peter Betsas in the present publication.

...the Beethoven House..., by the layer model of geology.

Arnulf Lüchinger, “The Structuralist Activity”, reprinted in the present publication.

E. g., by Arnulf Lüchinger, Wim van Heuvel, Jürgen Joedicke, Kenneth Frampton, Anders Ehrlin et al., Charles Jencks, Vittorio Magnago Lampugnani, et al.

Rayner Banham, *Megastructure: Urban Futures of the Recent Past* (London, 1976). On p. 8 he refers to a 1968 definition of megastructure by Ralf Wilcoxon (Council of Planning Librarians Exchange Bibliography, Monticello, Ill., 1969, 66), which can readily be applied to structuralism: “frequently 1 constructed of modular units; 2 capable of great or even ‘unlimited’ extension; 3 a structural framework into which smaller structural units (for example rooms, houses, or small buildings of other sorts) can be built or ‘plugged in’ or ‘slipped on’ after having been prefabricated elsewhere; 4 structural ‘framework expected to have a useful life longer than that of the smaller units which it might support.’


See Aldo van Eyck’s frequent reference to the equation of the big house and the little town, which can be traced back to Leon Battista Alberti.

Saas, e. g.: Case Le Corbusier’s Venice-Hospital and the Mat Building Revisit, eds. Hasim Sarkis with Paolo Alidro and Timothy Hyde (Munich, Prestel Verlag, 2009).

Favorite examples of such “precursors” were D’Occhio’s Palaces in Split, the amphitheater in Arles, or the Ponte Vecchio in Florence. Rayner Banham later referred to these examples as megastructures (house, by which in his terminology he meant structuralist presences. See also the article by Medina Wambor in the present publication.


*English Supports – An Alternative to Mass Housing* (London, 1972). See also the contribution in the present publication by Koos Bosma.

See the contribution by Anne Kocksikom in the present publication.

See the contribution by Cornelia Escher in the present publication.

See the contributions by Markus Stimpf and Michael Hecker in the present publication.