

Examining semantic features of the terms ‘Design’ and ‘Entwurf’ and their implications, observing three aspects common in any approach to shaping future environments.

Design/Entwurf: Observations

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Translating the German expressions *Entwurf* or *Entwerfen* into English seems to be an easy task: ‘design’ or ‘designing’ are the common choices recommended by dictionaries whenever a translation of *Entwerfen* or *Entwurf* is intended. The mutual translatability is evident since both ‘designing’ and *Entwerfen* refer to the same phase of an architectural process. Similarly, *Entwurf* and ‘design’ refer to the outcome of the architectural process as well. This confirms their exchangeability. It is notable that there are no similarly convincing alternative translations available, at least not in the form of single words or short expressions.

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But there is no doubt that the expressions ‘design’ and *Entwurf* refer to different practices and media. They stress different aspects of the process of developing new concepts, ideas or objects, and different aspects of the result. This is why the common translation becomes dubious. Translating proves to be a challenge. The term ‘design’ offers characteristic and conceptually important qualities, as does the German word *Entwurf*, and the implications of each are so different that there is some doubt that ‘design(ing)’ can function as the adequate translation of *Entwerfen*.

In the process of writing this article I discovered how in many respects my perspective on architectural design was shaped through the conceptual implications of the *Entwurf* and the process of *Entwerfen*. When I tried to express some of my observations on designing and design in English, I had to accept and to understand that at least some of my ideas on design and the process of designing had followed clues and traces offered by these German terms.

There are three issues I want to address here. The first is the energy of the *Entwurf* and its

relation to several kinds of imagined futures. The second issue is an examination of the scope and relevance of a certain *Entwurf* and its relation to knowledge. The third part reflects on the notion of control and the role of agency in designs. It may be useful though to start with a clarification of the characteristic semantic traits implied by ‘design’ and *Entwurf* as they point to different aspects of one of the most interesting and currently widely-discussed cultural techniques.

Translations

Design

‘Design’ and ‘designing’ stem from Latin roots in the sense reflected in the Renaissance concept of *disegno*. Giorgio Vasari’s famous description of *disegno* referred to the practices of three arts – painting, sculpture and architecture – which he described as the three *arti del disegno*. The term was established by the practices taught in the *Accademia delle Arti del Disegno* in the sixteenth century.

Choosing the term *disegno* to denote the expression of forms and concepts means that drawing is understood as the first and crucial manifestation of any invention. ‘Design’ implies that these inventions are articulated in drawings and demonstrated in linear forms, or ‘outlines’. In any of its interpretations, the term ‘design’ thus implies a certain idea of the relation of concepts, practices, and of what the person who designs does when he or she conceives a (concept for a) painting, a sculpture, or a building. Designing means producing a concept in one’s mind, creating a form, and expressing/(re)presenting it through lines in drawings.¹

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The first among seven definitions of 'design' given in Merriam-Webster's *WordNet Dictionary* is, 'the act of working out the form of something (as by making a sketch or outline or plan)'; the second definition, 'an arrangement scheme'; and the third, 'something intended as a guide for making something else'.² The entry lists the synonyms 'designing' (1), 'plan' (2), and 'blueprint' or 'pattern' (3), followed by four additional definitions: 'decorative or artistic works', 'intent' or 'purpose', 'a preliminary sketch indicating the plan for something' or 'the creation of something in the mind'.³ The older definition given in *Webster's Dictionary* of 1913 starts with a reference to the practice of drawing and defines design as, 'A preliminary sketch; an outline or pattern of the main features of something to be executed, as of a picture, a building, or a decoration; a delineation; a plan.'⁴

Entwurf

Webster's Dictionary recommends the following options for the translation of 'design' into German: 'entwerfen, Entwurf, Design, konstruieren, Konstruktion, konzipieren, planen, Planung, Absicht, Bauart, Gestaltung, Muster, designen, zeichnen'.⁵ However, the German expressions indicating the result of a design process (*Entwurf*) or the special activity leading to design results (*Entwerfen*) imply certain characteristic traits that differ from the description given above.

It is notable that the verb *werfen* basically means 'to throw' ('with a rotating curved arm'),⁶ or in Latin, *iacere*. The German prefix *ent-* conveys an opening, an evasion, a reversion of a former state, and/or the process of ridding oneself of something. Thus, *Entwerfen* is an energetic concept and an *Entwurf* is the result of an energetic and powerful physical process. The prefix implies the existence of an origin of this energy, a starting point to the eruption – someone or something investing power, energy, purpose, and effort. This energy is not to be underestimated – it is the energy of a 'pro-ject', possibly a 'projectile', and usually a 'pro-jection', which does not necessarily imply a reference to geometrical or mathematical rules or orders.

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'Design' emphasises the notion of naming and fixing, of translating or transferring something into the world of notations and signs, preferably through drawing. It means making something readable, or, as stated before, giving a certain form or outline to something. In opposition to 'design', *Entwurf* does not explicitly single out a special medium or practice of (re)presenting 'ideas'. Nor does it express the strong conceptual side ('ideas', 'concepts') stressed in 'design'. *Entwerfen* implies activity or activities. The word neither conveys nor rejects the idea that marking or drawing are included in these activities. An *Entwurf* may

emerge in drawings, texts, models, diagrams, or in any other suitable medium. In the seventeenth century, when *Entwurf* became a category of relevance in architectural theory, the German expression usually referring to drawings was *Riss*. This term is still used today in the common notion of *Grundriss* (floor plan) and *Aufriss* ((front) elevation/vertical section).

The most characteristic semantic features conveyed by the expression *Entwurf* are the energetic qualities and the image of a spatio-temporal event. The *Entwurf* emerges in a process shaping (future) conditions, and this is expressed through the reference to an active movement, to the dynamic activity of 'throwing' something ahead.⁷ This is, of course, a reading of an image and an interpretation that insists on the metaphorical and imaginary aspects of the expressions at stake. But although we are used to their unspectacular everyday usage, the expressions *Entwurf* and *Entwerfen* imply the imagery of metaphors and provide us with semantic elements and concepts we can make use of. They may inspire and support further considerations as I hope to show in the following discussion of imagined futures; the relation of projects and knowledge; and the notion of agency in designs.⁸

Imagined futures

Potentiality

'Designing' or *Entwerfen* produces innovative knowledge especially through a certain potentiality. Trained designers are able to support and envisage a permanent revision of the process of designing itself. This quality of designing is the key to an understanding of the effectiveness and efficiency of *Entwerfen*/design as (a) cultural technique(s).⁹ In its most elaborate form, *Entwerfen*/design implies not just the invention of new objects, concepts or programs but also the invention of new kinds of modelling, new notational strategies or new ways of expressing or even reflecting on the issue at stake.¹⁰ The questioning, the possible revision and surpassing of the means and media can be part of the process.

Procedures

The emergence of a design is a process combining analytic and synthesising procedures. It involves recursive processes at any stage of a project at stake. The arts and design share certain, especially analytic practices with scientific research, such as heuristic approaches, among them experimental practices, trial-and-error arrangements, analytic devices supporting the partial definition of problems. In general, these are practices made up for dealing with unknown situations, present conditions that cannot be defined completely and more or less elaborate scenarios for assumed or possible futures.

Projecting the future

Architectural designs / *Entwürfe* begin with someone's intention to change a given situation.

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They imply the intention to (re)direct its future course. Usually designs are made to define a certain place, a certain object, or principle for present uses and requirements. Designs react to present aims, imaginings, and wishes, and depend on common or qualified expectations. Because architecture usually deals with relatively durable objects – with ‘real estate’ or *Immobilien*¹¹ – the relevant future may be comprised of several decades.

However, a design’s long-term performance and function can only be imagined. Designs rely on more or less tested and probable forecasts and scenarios. This means that they rely on assumptions, incomplete information, and possible prejudice, and only in some instances on facts or explicitly defined conditions and processes. Design processes react to present intentions and definitions, desires, or shortcomings, and, in architecture, they usually do so with long-term effects.

Materialisations

The spatial and social effects of architectural designs or *Entwürfe* may already be visible or palpable in models, drawings, or other media. The impact becomes evident again in a different way when designs are translated into materialisations, usually into buildings. These define physical settings and sceneries and become the palpable proof that the design shapes present and future situations on the site. Designs create distinctive and all-embracing environmental models.¹² They create and redefine the specific conditions for everybody who enters the sphere of impact of the respective building or site.

Whenever designs are translated into a built structure, they impose their program on the respective site, reorganise its context, and develop relationships with the broader environment. The new structures offer visual, tactile, and auditory impressions. Further, they imply and invite certain uses and activities and prevent others; they create special ways of communicating and meeting; they include a choice of individuals or groups as users and exclude others. In these and many other respects designs show their enabling capacities as well as their capacities of control. This, however, does not mean that designs themselves are controlled in all or even most of their many traits by their respective authors, whether they are trained architects or not.

Tasks

Building often occurs without an explicit new *Entwurf* or design. This is the common situation,

and it is due to norms, standards, traditions, and several other reasons, which will be discussed below. Here, I want to stress the fact that there is no point producing *Entwürfe*, projections or designs if and when nobody assumes that there is something to decide, to develop, or to invent. Architectural designs are most urgently wanted when certain sites or buildings, spatio-temporal concepts, or principles have qualified for a change of unclear size and kind. If there are no identified problems, vague notions, or open questions then it is unnecessary to design anything or to develop an *Entwurf*. Possible observers and initial actors supporting the *Entwurf* of a transformation may be architects, urban administrations, private investors, social institutions, or creative citizens.

Innovation

Designing is not just an interesting issue for architecture and architects, for industrial design or fashion designers. Designing/*Entwerfen* as a cultural technique is of interest in any endeavour striving to plan and control future conditions. Whenever usual habits, knowledge, or practices do not suffice to react to a certain situation, designing or *Entwerfen* may come into play. This suggests a tentative explanation of why the process of designing or *Entwerfen* has enjoyed such intense academic attention for the previous ten years.¹³

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This attention resulted in attempts to understand designing as a scientific approach, thus broadening the range of scientifically justified methods. In this respect I see the research into design and *Entwerfen* as part of a restless and generalised search for methods and resources that have not yet been overused, as our academic system, like our economy, depends on continuous innovation. This dependence extends beyond technological developments or scientific findings and furthers a general curiosity concerning methods of creating innovative processes.

In this respect, the discourse on design seems akin to the interest in artistic research and appears to be driven by a similar motivation: the interest in designing/*Entwerfen* may be understood as part of the general approach to resources promising further innovation and innovative strategies. A considerably less probable motive is the anarchic, utopian, and hopeful trait expressed in playful designs of the 1960s, which conveyed a vision of progress and technology in the Western world, and seemed to justify any hope that the future would be an enjoyable time.

Projects and knowledge

Options

The vaguer the ideas, wishes, and imaginings that linger, the more options for design exist. Design as an imaginative, ordering, problem-defining, and problem-solving activity shows its potential especially in non-defined situations. The brilliant qualities of designing as a cultural technique, especially its disturbingly anarchist streak, have come up repeatedly, and often without previous commissions. This was the case when architects decided to comment on social conditions, economic constraints, and technological options in the 1920s. This also happened when architects imagined possible consequences of changing spatial conceptions and technological options in the 1960s and presented utopian cities to the public. Sometimes commissions encourage innovation too. This has occurred in the 1980s, when nobody knew what to do with the brownfields and other remnants of the traditional industrial age in Europe. It also happened and happens frequently, if and when competitions or commissions provoke the questioning of initial motives and descriptions of a task. In such instances, *Entwerfen* is the right thing to do.

Traditions

Thus most architects understand the creation of new concepts and designs as a core component of today's architectural practice, and the ability to design is still the central aspect of most architectural training programs. This has not always been the case. When buildings are evaluated against traditions, building and architecture do not require new conceptual designs or novel projects, but rather demand an adequate application of rules and regulations, the art of imitation, copying, or the repetition and reproduction of ideal buildings and building types.¹⁴ This does not necessarily mean that there is no change, it means, however, that the narrative interpreting the role of architecture promises that there will be no change. The future will be the same: the promise is stability and adherence to the existing order. This narrative usually includes a humble concept of the role for builders and architects. This is not just a pre-Renaissance idea; it is also the general classicists' or traditionalists' approach, quoting traditional gestures of architecture, proposing a return to ancient forms or striving for a new traditionalist effort in architecture.¹⁵

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Reiteration

There are more ways toward conformity and reiteration, toward imitation and the successful establishment of standards. A prefab house may be sufficiently defined through elements and building routines. A series of offices, single-family homes, or schools may likewise be defined through prototypes. In these cases, it is, or seems at least, adequate to execute an already known practice, to adopt a prearranged form or to link an already finished concept to the situation in question.

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And, indeed, there is a tradition in architecture that seems to strive at the elimination of the architect and their inventive powers from the process. From time to time there is a search for general principles, such as rules for proportionality or for the use of columns, or standards defining the human dimension, such as the Modulor, norms to be adopted, pattern languages to be applied, programs to be executed and parametric approaches to be optimised.¹⁶

Knowledge

The very special practice of designing is not specialised in its approach to knowledge. Architecture is among the few academic disciplines still maintaining a wide and principally unrestricted and universal scope of interest. Relevant knowledge comes from the sciences, from technological research and development, from sociology and cultural studies, from the arts, law, economics, and common everyday knowledge as well. There is also the necessity to understand the impact and possibilities of the different crafts, trades and building functions, or to understand the significance of materials in respect to aesthetic or ethical options. A certain curiosity and a cultivated approach to styles and fashion may be helpful too. Dealing successfully with all of these heterogeneous approaches (among others) is the key qualification for architects, offices, or groups of architects. The most important qualification in architecture, however, is the ability to integrate and synthesise the heterogeneous aspects necessary to define a concept and make it work.

Choices

In principle, the manifold aspects modelled and articulated in a single design relate to an endless number of topics and possible questions. The number of implications and decisions taken in the process of designing exceeds the architect's ability and, of course, their will to consider all possible outcomes in their complex relations. Even enumerating the aspects involved may be a difficult

task. The available amount of energy and labour invested in a certain design is definitely finite. The more a design challenges conventional, 'normal' approaches, the more aspects may be consciously and knowingly reconsidered.

Preconditions

Some issues, however, are simply never considered since they are known and understood as preconditions. This is likely to be the case where legal issues are at stake. They go unmentioned and are usually part of the basic parameters defined in design programmes. Other preconditions may be accepted as well, such as a building site or the main function of an intended building. These conditions are usually not called into question. The same may be true in those cases where traditional and standardised sizes of certain materials have an impact on the aesthetics or construction of a building. These examples stand for a specific type of decision in design, namely for issues accepted as basic conditions. Most of these conditions can be made explicit and become the subject of a discussion, but such a discussion would not lead to any change automatically. It is possible to submit these issues to a design process. In this context, the status of the issues at stake as preconditions may be challenged – may even be challenged successfully – but any such challenge would be an exception.

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Co-designers

If designs become blueprints for buildings, and not just studies or experimental sketches, the impact of institutionalised, formalised, legal, and political issues must be considered. Among these issues would also be property rights, building laws, and fire protection requirements. The respective regulations may affect the material and thickness of walls or doors, they may guide the design of floor plans, the choice of materials, the planning of securing openings, or the allowed uses of spaces and many more aspects of the design. Laws are veritable co-designers interfering on many levels. These conditions can be revised and redesigned but usually they tend to be accepted. A qualifying trait demonstrating the architect's professionalism is their ability to integrate legal conditions into a suitable general plan meeting the ends of a design.

Normality

Other decisions are taken without further reflection. This type of decision differs from the ones I categorised as those made regarding usually accepted basic conditions. These latter decisions are neither well-known or explicit, nor do we test the question of whether they should be rejected or accepted. Such decisions rely on tacit, habitual,

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or implicit knowledge, such as obligatory and widespread convictions or unquestioned ideas of normality and common sense. They are derived from routines, habits, education and training, and shared ideas about how to execute a professional design. Even socially and aesthetically weighty ideas may come in unnoticed, such as barriers reflecting social and political attitudes towards complex but nevertheless unquestioned conceptualisations of danger and security, of gendered spaces, of moral convictions. These common attitudes and assumptions about the world we live in may become subjects of discussion, but they do not necessarily need to be discussed. While it is possible to challenge theoretically the underlying convictions, practices or norms, these are not likely to be challenged in practice. It takes an intentional effort to question such deep-rooted routines and practices and to break their eminent strength. At the same time, such variables provide a certain measure of stability and reliability in the design process.

Agency in designs

Decisions

As long as a design process is going on, many options are open. In the course of the process, these options are tested, compared with, tied to, and combined with other concepts and layers of the design elements. The design is defined and redefined until it is considered to be finished. Resulting options are accepted and admitted or abandoned, and through this process, a complex solution emerges. But even great works include non-intended traits and qualities, as Nelson Goodman and Catherine Z. Elgin stated in their semiotic critique and analysis of the arts in general, and architecture in particular.¹⁷

Training

Up to a certain level of education, designing may be conceptualised and learned as a process controlled through heuristic methods, repeatable training and standardised experience. But beyond these normalised practices, the practice of designing is still a faculty acquired through an individual learning process of experience and incorporation. The capacity of designing is the capacity of regulating a complex process that is, potentially, out of control.

An open question demands an answer, a problem should be solved, and an idea may find its explicit form. This is when and where a design process may take off. Even if the problem, the question, or the idea is considered to be of interest, it is not usually clear where a design process may end. Designers

do not usually know in full detail how the final concept will be arrived at. At the beginning of the process, knowledge that will ultimately be required may be incomplete, and the result not entirely predictable or even unpredictable.

Completeness

Because the possible questions involved are infinite, there is no complete definition of a design and its parameters. Such questions cannot be enumerated and defined completely. A kind of completeness may be the aim of an optimised concept, but this idea has to be considered as a vanishing point in an infinite approximation. The idea of a complete definition would imply the end of a vital renewal through design.

As I argued before, this does not prevent designs from including decisions on any possible aspect involved. Even in those cases when architects do not reflect on ecology, their design implies a certain effect on the environment. Even if they try not to dwell on aesthetics, the resulting building will provide sensations. Even if they ignore the neighbourhood, its further development will be affected through the newly designed object. When architects concentrate mainly on shapes and forms or on technological processes in design and building, they nevertheless propose a structure that will define a much wider range of future conditions.

The materialisation of a building means the materialisation of any of the aspects mentioned above. It materialises a fully-fledged environmental model, thus implementing aesthetic, social, material, ecological, political, and other conditions even if they have not been reflected or tested in an explicit way, or designed with consideration. Conscious efforts in a design may be limited to certain topics or concentrate on single issues, but whenever the results materialise, these issues appear among the entire range of others. The built structure as a whole defines the materialised conditions created through its design.

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Fitting

A design may be understood as a single object and there is a moment when this design is declared finished. This moment indicates that goals have been met; the purpose is achieved, the process of designing has found answers to at least the immediate questions, and comes to a halt. This state of the designed object may be compared to the ‘concrete technical object’ in the sense of Gilbert Simondon’s term: a design is finished when the manifold aspects it reflects and the different ‘forces’

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it contains are brought together in such a way that the involved powers and functions do not disturb each other, but rather result in a new arrangement that merges the synergies of all implied elements and functions in a harmonious way.¹⁸

Whereas this idea comes from a philosophy of technology, the notion of completeness has also been discussed within another framework – the idea of an inseparable whole, a complex unit, a single integrated object is a traditional subject in reflections on art and aesthetics.¹⁹ If architecture is described as a work of art, aesthetic criteria become decisive issues. A certain degree of suitability, unity, and coherence has to be acquired to create satisfaction through a design. Also this criterion signifies a kind of completeness, but does not evaluate it from a technological point of view. The relevant attitude here is the ability to grasp the aesthetic suitability, or even aesthetic necessity, in a certain structure. In this sense, Nelson Goodman introduces the notion of the ‘fit’ or ‘fitness’ as the ultimate criterion for a qualified critique of a work of architecture. This critique does not refer to a surface problem. It implies a fundamental idea of integration that may change over time.

Understanding

It is interesting to note that Gilbert Simondon as well as Nelson Goodman and Catherine Elgin do not attempt to fully explain what their respective ideal integrations in a work of technology or in a work of architecture may mean. They also do not assume that anyone, including the designers themselves, may understand the complexity involved. Simondon’s ‘concrete object’ is not completely analysable by its makers, and the same is true for the work of architecture Goodman and Elgin discuss. Being ‘concrete’ or ‘fitting’ seems to be a kind of perfection, optimisation, and (possibly) beauty that cannot be understood completely. The philosopher of technology and the philosophers of signs and representations each stop their explanation at this point of their respective argument.

Comment

Interestingly, the idea of rationalisation and objectivity in architecture is a recurrent motive as old as the concept of the architect as authoring designer and as artist. The idea of defining and thus totalising all necessary information is the vanishing point of this approach. Beginning fifty years ago, the idea of authorship has tended to focus on the elimination or vanishing of the author, rather than on his or her presence or endurance. The inquiry into agency in design processes needs to be continued.

Notes

1. Wolfgang Kemp, 'Disegno: Beiträge zur Geschichte des Begriffs zwischen 1547 und 1607', *Marburger Jahrbuch für Kunstwissenschaft*, 19 (1974), 219–40.
2. This dictionary has been chosen as reference and source because it mirrors the present uses of expressions in American English; a deeper insight into the etymology is provided through the Oxford English Dictionary.
3. See: <<http://www.webster-dictionary.org/definition/design>> [accessed 30 April 2016].
4. Ibid.
5. Ibid.
6. (*mit drehend geschwungenem Arm*), see *Werfen*, in *Deutsches Wörterbuch* von Jacob Grimm und Wilhelm Grimm Bd. 29, Sp. 277 (woerterbuchnetz.de). Publication of the Trier Center for Humanities).
7. It is also interesting to consider the corresponding French expressions such as *jet* (*jeter* / to throw) or *projet*. In some interpretations, the German expression *Entwurf* is related to a practice in picture weaving; this technique obviously demands a certain kind of throwing of the shuttle. See Artur Jung, *Funktionale Gestaltbildung: Gestaltbildende Konstruktionslehre für Vorrichtungen, Geräte, Instrumente und Maschinen* (Berlin: Springer 1989), p. 190.
8. See George Lakoff and Mark Johnson, *Metaphors We Live By* (Chicago: University of Chicago Press, 1980). The authors argue that our way of creating concepts is basically and generally metaphorical: older metaphors turn into 'normal' expressions whose metaphorical qualities pass unnoticed in everyday communication. Thus metaphors are a central issue in understanding social processes and political thought and the creation of new concepts too.
9. Daniel Gethmann and Susanne Hauser, eds., *Kulturtechnik Entwerfen* (Bielefeld: transcript, 2009).
10. Ibid., see 'Introduction'.
11. An adequate translation is 'non-movable(s)' (Latin *im-mobilis*).
12. Susanne Hauser, 'Environmental Models – Landscape Planning and New Descriptions of Nature', in *Eco-Semiotics*, ed. by Ernest W. B. Hess-Lüttich (Tübingen, Basel: A. Francke Verlag, 2006), pp. 95–104.
13. Sabine Ammon and Eva Maria Froschauer, eds., *Wissenschaft Entwerfen* (München: Fink, 2013).
14. This argument incorporates past and contemporary judgment and evaluation. Very instructive is the discussion of the concept of similarity in medieval times and architecture in Richard Krautheimer, 'Introduction to an "Iconography of Medieval Architecture"', *Journal of the Warburg and Courtauld Institute*, V (1942), 1–33. It shows that, depending on the adopted criteria, the execution of intended repetitions could involve a wide range of interpretations and, thus, changes.
15. See Leon Krier and Richard Economakis, eds., *Architecture & Urban Design 1967–1992* (London: Academy Editions, 1992) esp. pp. 16ff, 296ff.
16. This refers to several remarkable developments in architecture from antiquity to our times; to classical orders of architecture as exemplified in Sebastiano Serlio's *The Five Books of Architecture* (English version: London, 1611); to Le Corbusier's Modulor as in Le Corbusier (1954 and 1958), *The Modulor: A Harmonious Measure to the Human Scale, Universally Applicable to Architecture and Mechanics* (Basel, Boston: Birkhäuser, 2004); to normative approaches as they became prominent in the 1930s, such as Ernst Neufert, *Bauentwurfslehre* (Berlin: Bauwelt-Verlag 1936); to the exact 253 patterns of an architectural 'Pattern Language' referring to any human need in Christopher Alexander, Sara Ishikawa, Murray Silverstein, *A Pattern Language: Towns, Buildings, Construction* (New York: Oxford University Press, 1977); to the universal architecture as defined through parametricism as in Patrik Schumacher, ed., *Parametricism 2.0: Rethinking Architecture's Agenda for the 21st Century* (London: John Wiley & Sons, 2016).
17. Nelson Goodman and Catherine Z. Elgin, *Reconceptions in Philosophy & Other Arts and Sciences* (Indianapolis, Cambridge: Hackett Publications 1988), p. 44: 'On one view, correct interpretation is unique; there are no alternatives, and rightness is tested by accord with the artist's intentions. Obviously drastic adjustments in this are needed to accommodate works that fail to realise the artist's intentions or that exceed or diverge from them: not only the road to hell is paved with unfulfilled intentions, and great works are often full of unintended realisations.'
18. See the first chapter in: Gilbert Simondon, *Du mode d'existence des objets techniques* (Paris: Aubier 1958); English translation: *On the Mode of Existence of Technical Objects* (Minnesota: Univocal Publishing, 2016).
19. Concepts of wholeness and unity are discussed throughout European history of philosophy. With the rise of aesthetics since the eighteenth century they became central issues in the philosophy of art. They were challenged, e.g. through romanticist concepts of the fragment. See Eberhard Ostermann, *Das Fragment: Geschichte einer ästhetischen Idee* (München: Fink, 1991).

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