



A Deep Organic Re-reading of Alvar Aalto's Design Approach

Ari Hynynen

Tampere University of Technology

ari.hynynen@tut.fi

Abstract

The conceptual framework of 'organic architecture' is the most common theory used in analysing Alvar Aalto's life's work. Actually, it could not be considered a real theory, but a quite fuzzy concept due to its many miscellaneous interpretations. Aalto himself talked about organic architecture without ever explicating properly what it means. In this respect, more research should be done. For example, Aalto's regional plans deserve to be analysed from this point of view. Perhaps the most favourable case is the Kokemäenjoki valley regional plan, for it offers new keys for interpretation due to its emphasis on textual representation. The other key used in this study is Goethe's philosophy of science. Many writers have noticed its resemblance to Aalto's thinking and approach. Unfortunately the argumentation is too often superficial, although more thorough processing seems to evoke new ideas on Aalto's design approach, as well as on organic architecture on a more general level. Surprisingly these ideas appear quite topical in our digitalizing world.

Introduction

A vast number of different kinds of analyses have been published on the life's work of architect Alvar Aalto (1898-1976). One of the most often applied interpretational frameworks has been the theory of organic architecture. The term 'theory' in this context, however, is misleading, in that there are almost as many interpretations of organic architecture as there are writers. The term 'organic' includes 'naturalness' – a concept that has been interpreted as equally often as the imitation of natural forms as the imitation of natural processes. Even at its most superficial, one sees that the term organic refers to virtually every application of 'free' form in architecture that diverges from the rectangular.

The above described range of interpretations also applies to analyses of Aalto's architecture. Despite this, one cannot say that these analyses would be somehow wrong or of less value, but rather they are feasible interpretations offering a useful conceptual framework in each particular context under discussion. Fully capturing the essence of architecture through linguistic concepts is impossible, and Aalto himself subscribed to such a viewpoint in the latter part of his career, stating that he would cease from explaining his works: 'The works speak for themselves' was his dictum. However, Aalto gave good reason for the organic interpretation of his works when often using the term himself. One must nevertheless note that he never completely consistently or explicitly elicited the meaning of the concept.

One of the best known interpretations of Aalto's architecture is undoubtedly found in the chapter titled 'Alvar Aalto: Irrationality and standardization' in Sigfried Giedion's book *Space Time and Architecture* (Giedion 1941/2008, 618-667). He, too, uses the concept of organic architecture as his interpretative framework, but leaves its content unspecific, and remarks that this is also how Frank Lloyd Wright operated, even though he too spoke a lot about the subject. According to Giedion, Wright's mentor, Louis Sullivan, on the other hand, encapsulated the idea of the organic in his renowned book *Kindergarten Chats* as the 'ten-fingered grasp of reality' (Giedion 1941/2008, 874).

The conceptual framework of 'organic architecture' is the most common theory used in analysing Alvar Aalto's life's work. Actually, it could not be considered a real theory, but a quite fuzzy concept due to its many miscellaneous interpretations.

This interpretation clearly pleased Giedion, because when discussing Aalto's architecture he juxtaposed the universal doctrine of functionalism, which supported the mechanistic standardisation objectives of the burgeoning construction industry, against an irrational-organic design method, where, through the synthesising approach of the artist, a built environment is shaped in each case to support the everyday needs of man. Giedion thus did not consider organic architecture as an impersonal form concept, even though he speaks about the relationship between geometric and organic form. In addition to form growing from the prerequisites of the location and man's material needs, it should also create a historical continuum and offer roots for man's existential needs. The over-emphasis on technology in building may lead to the discontinuity of these synchronic and diachronic continuums.

Also Bruno Zevi, in his classic work *Towards an Organic Architecture* (1950), ranks Aalto highly as a representative of organic architecture. Without aiming for a precise definition, Zevi encapsulates the idea of organic architecture as follows: 'Architecture is organic when the spatial arrangement of room, house and city is planned for human happiness, material, psychological and spiritual. The organic is based therefore on a social idea and not on a figurative idea. We can only call architecture organic when it aims at being human before it is humanist.' (Zevi 1950, 76).

The last sentence in particular contains a lot of different meanings. If the basis of architecture is some '-ism', then a doctrine already exists that is being followed. Zevi here refers to the original principles of functionalism, according to which form follows function and changes with changed circumstances. However, it is essential to distinguish when 'function' arises from some dogma or when it is based on the reality of life and the everyday. To précis Zevi, visual form or aesthetics in themselves do not tell about the organicness of architecture, but rather one must assess the design approach, mentality and method of the architect (Zevi 1950, 71).

Zevi finds '-isms' also in the various interpretations of organic architecture. He lifts out two common fallacies. The first of these is to understand organic architecture as naturalistic, by which he means the imitation of nature, and in particular the plant world. The aim of such imitation is usually either a romantic and mechanistic return to nature or then a simple quest for aesthetic charm. A second and more serious fallacy is biologism and its extreme form anthropomorphism, which is what Zevi mostly discusses. According to anthropomorphism, there is a correspondence between the human body and architecture that must be taken into consideration in design. The building is thus in a way a continuation of the body, supporting man's biological essence, producing feelings of safety, completeness and pleasure. From here it is an easy move to Expressionism, according to which architecture should express the actual deeds and emotional states of its users. According to Zevi, with these kinds of interpretations one is already firmly at the level of metaphor, which is the complete opposite to what Zevi means by organic architecture (Zevi 1950, 72-75).

Nicholas Ray (2005, 154-156) suggests that Aalto could very well have approved of Zevi's interpretation of organic architecture, where he differentiated between a human and humanistic approach. Ray also notes Zevi's brief reference to Johann Wolfgang von Goethe (1749-1832), which provides Ray with the impetus to discuss more extensively the latter's natural-scientific method. Here he sees connections both to Zevi's notion of organic and, in particular, Aalto's design method and approach. Central in Goethe's scientific thinking is a phenomenon-centeredness that strives to understand totalities, and retaining at all times the study object within the perception of the senses. Transforming the study objects into mathematically measurable entities reduces their qualitative dimension to abstractions that can form entities only within the sphere of quantitative theories, but not within the human world of perception. According to Goethe, this leads to a break in man's relationship with nature.

Ray's interpretation of Goethe in his discussion of Aalto's approach to the organic provided the decisive impetus to write the present article. Ray himself

does not follow further the Goethe's line of investigation he himself had noted, but seems to offer this thread for others to investigate.

Nowadays, digital technology, smart cities and intelligent houses receive a lot of uncritical attention, which in my opinion would require as a counterpart some 'analogical' thinking. An analysis of Aalto's organic design approach could offer an example of such thinking. For this reason, it is important to expand and deepen the notion of organic architecture beyond just Aalto's life's work. Obviously, in the present small study I make no claims for any comprehensive definitions, but rather I am attempting to revive in the debate a more marginal yet still important theme in architecture which, if one chooses to, can be seen throughout history in parallel with the technical-rational or mainstream architecture.

New keys for interpretation

The framework of organic architecture has been applied to the analysis of Aalto also in other research than those mentioned above. Despite this, in my opinion there is far more that can be said on this subject. One reason why Aalto did not explain more specifically his own conception of organic could be that he did not want it to become similarly doctrinaire as CIAM's principles of modern architecture. In other words, he avoided all sorts of conceptual abstractions that would eventually establish themselves as self-evident and begin to shape the built environment more from their own premises than from the users' needs, prevailing culture and landscape setting.

The Kokemäki valley regional plan from 1943 (Aalto 1943) offers an interesting but very little used interpretive key to Aalto's design approach. This was a pioneering work in its field in Finland because such extensive regional plans had not previously been made. At the time of receiving the commission, Aalto had already acquainted himself with corresponding regional plans in the USA, notably the Tennessee Valley Authority, and inspired by these he began to work on the task (Nupponen 2000, 16; Pelkonen 2009, 120). Even though the commission came from the forestry industry, which at the time was in a period of economic upswing and had ambitious economic production objectives, Aalto took a surprisingly diverse approach to the project area, taking into consideration the existing communities with their traditional ways of life and methods of building, the landscape conditions, as well as the requirements of traffic and industry.

What has made studying the Kokemäki valley regional plan particularly interesting is its divergence in relation to Aalto's building designs, for which he provided only brief texts explaining his design principles. The extensive scale of the Kokemäki valley regional plan and its connections to social processes required more extensive verbal substantiations from Aalto. Apart from a map depicting the total planning area, the remainder of the planning material is text, which was published as a 27-page booklet. The text offers a very interesting insight into the thinking and approach behind Aalto's design work, as well as the deeper design principles – thus in this sense excellently complementing the rest of his production (Rautsi 1998). When drawing up the regional plan, Aalto was already an internationally renowned architect who ambitiously wanted to expand his operations into new areas of design.

Even though Aalto's extensive regional plans – the general plans for Kokemäki valley and Lapland – were never implemented as such, he himself considered his regional planning as a very important and interesting activity. The latter observation, made by Jussi Rautsi (1984), creates a somewhat different image of Aalto than we are generally used to. It is known that he was unusually versatile for an architect; he mastered a surprisingly extensive range of scales in design, from glassware to cities. Regional planning was already at that time, however, the work of geographers, requiring the mastery of economics, industry, traffic, administration and other processes of regional development – and in addition to these, also an expertise in physical geography. Even though Aalto indeed used experts in various fields when preparing his extensive

regional plans, one could still say that he had an exceptional mastery in a wide field of operations.

Their multiple scales makes these regional plans exceptional compared to present-day regional plans. As odd as it may sound, also unfolding from the plans is a treasure-trove for a researcher in design theory. The Kokemäki valley regional plan is in fact the combination of regional design and regional planning at its best. According to Aalto, regional plans receive their content only when the scale of the living environments and building are also taken into consideration. According to him, the basic unit in all sizes of communities is the dwelling (see, for example, Schildt 1997, 157, 214). In this context one must also note that in Finnish the word 'suunnittelu' is equivalent to both the English words 'design' and 'planning': there are no separate equivalent words in Finnish for these two concepts.

The actual interpretive key to Aalto's design thinking is offered, however, by the insight in Aalto's text in the Kokemäki valley regional plan, according to which: '... there is evidently emerging a completely new social step that is higher than the concept of the city, which is formed by the widespread combination of industrial, agrarian, traffic-technical and cultural activities...' In other words, Aalto anticipated the concepts of Regionalisation (Vartiainen 1988), Zwischenstadt (Sieverts 2003) and Netzstadt (e.g. Oswald and Baccini 2003) which emerged decades later in the planning debate. The importance of the point in question is highlighted by the fact that it is the only part in the original text that is printed in capitals.

A practical explanation for why Aalto was so open-mindedly prepared to present a completely new type of community can be found in the rigidity of the planning system. In Finland during the 1940s the countryside was not yet recognised as an object for planning, while on the other hand there were established systems and practices for the cities¹. When a rural population centre reached a certain population size, it would then come under the official urban planning system. The planning system thus made visible only communal structure concentrations of a certain size, but not regional structural networks at all. By recognising the spontaneously created community type and its special characteristics, as well as having it approved as a valid object of planning, it was possible to establish a planning method suited specifically for it and to bring it under the official system. In the text accompanying the Kokemäki valley regional plan, Aalto wrote that when proceeding in this way, the opportunity to create organic societies is not lost.

From this central insight stems the solution and intrinsic characteristic of the whole Kokemäki valley regional plan. Local situations and 'geographies' were not to be fettered by some abstract model that did not recognise the real sources of the dynamics of regional development. The actual development of communities does not follow the planners' established typologies, but rather their complex processes always produce something new and unexpected, hybrids that take on a life of their own.

The same basic idea or attitude runs through all of Aalto's life's work, and can also be found in many of his other texts, speeches and design works: the doctrines and ideal models developed in the fields of administration, science or industry are unsuitable as starting points for planning, the task of which – without proscriptive preconceived ideas – is to observe and recognise case by case the continuously newly creating processes of individuals and local communities and to give them a form and framework. With these types of pronouncements Aalto may have been referring to the dogmatism, technological rationalization and formalist architecture that emerged within CIAM or to the rigidity of urban planning generally. (Mikkola 1985) These insights encapsulate the interpretation of the 'organicness' in general, as well as

¹ Subsequently, in 1959, regional planning was made official, and Regional Planning Associations, administered by the municipalities, were founded in Finland. Changes in social structure, the national development needs of the traffic system, and Aalto's pioneering works influenced the rise of regional planning.

in the case of the Kokemäki valley regional plan. The idea will be revealed gradually in the next chapters.

Aalto was also aware of the idea of complexity, which now in the 2010s has become a fashionable term both in architecture and urban planning. Aalto saw contradiction, a fundamental part of human existence, as the starting point of complexity. He often spoke of 'the little man' and 'human error', which is reflected in our built environment as conflicting needs, demands and outcomes. But unlike the majority of the experts during both his time and now in the 2010s, Aalto did not see rational calculation and systems thinking – that is, a quantitative approach – as solutions, which are more natural choices when dealing with technical problems. In fact, Aalto did not consider building so much a technical solution, but rather one had to take into consideration biological and psychological needs. What he himself saw as a solution was an artistic approach that offers a comprehensive method in melding together contradictory elements. Artistic work takes form as its central premise, which has the ability to transmit many different kinds of physical and spiritual contents, so that the qualitative dimension permeates the entire design process, and on the way is not reduced to mathematical formulas (Schildt 1997, 154, 175).

In an article he wrote for the journal *Arkkitehti* in 1955 titled 'The reconstruction of Europe is the key problem for the architecture of our time' (Schildt 1997, 150-157), Aalto uses the example of the automobile to illustrate the relationship between technical rationality and architecture. When striving for efficiency by means of mass production and standardization, one must apply different methods in building than in movable commodities. The building is always linked to some particular location, where the central factors are the landscape, soil, climate, culture, use and many other elements that vary case by case (e.g. Mikkola 1985). For this reason, one must not strive to create types in building in the same way as in the automobile industry, but rather that the pre-fabricated building parts enable numerous combinations and variations in form. Aalto emphasised, however, that variation is not a means in itself, but the variation must be based precisely on those previously mentioned nuances of the location and use. According to him, the buildings must be different in an organic not arbitrary way. In the same text Aalto vividly describes the way plants grow depending on their innate potential and the external circumstances. Aalto's analogy of 'standardisation' in nature strongly brings to mind Goethe's descriptions of metamorphosis in the plant world, where he describes the birth of form with the term *proteus in potentia*, the basic nucleus of formative forces with its rich productive potential (Goethe 2009, xxi, 111). Growth and variation, in other words, always occur as a common effect of internal pressure and a different external environment.

Affinity to Goethe's scientific method

As mentioned earlier, at least Nicholas Ray (2005) refers to equivalences between Aalto's design approach and Goethe's scientific method, as does also Eeva-Liisa Pelkonen (2009). As even Zevi (1950, 57) remarks, Aalto himself never wrote a book or formulated explicit design principles, but equivalences to Goethe's method can nevertheless be found everywhere in Aalto's life's work, including texts, lectures and speeches (Mikkola 1985). In fact, brief references to Goethe can be found in Aalto's texts. The concept of 'design principle' refers, however, to the conscious and logical application of certain leading ideas, so it is perhaps better in this context to talk instead about 'design approach'.

Goethe was known, beyond his better known literary production, as a diverse and original scientist, but he too never wrote a theory of architecture. Instead, Rudolf Steiner (1861-1925), the founder of the anthroposophic movement, and his followers applied Goethe's methodological insights also in architecture. Likewise, Goethe's methodology has points of contact with the phenomenological philosophy of Edmund Husserl (1859-1938) from the beginning of the 20th century. But anthroposophic and phenomenological analyses have been completely left out the present study; including them would have led to such areas of philosophy of science that would be beyond the scope of the present study.

Though Ray and Pelkonen – and even Zevi ('formative art' versus 'fine art'; 1950, 69) – refer to Goethe, they do not in my opinion sufficiently go into detail about the core principles that could establish a clear conceptual link between the method in question and Aalto's design approach. Goethe developed his method during his trip to Italy in 1786-88, and an interesting but slightly enigmatic key to his thinking can be found in his famous travel book *Italianische Reise*, the first edition of which was published in 1816-17: 'I shall never rest until I know that all my ideas are derived, not from hearsay or tradition, but from my real living contact with the things themselves.' (Goethe 1970, 347) In this particular section of the book, Goethe tells about the relation between the fine arts and nature, but the quote also describes perfectly his way of doing science, and also it occurs in different variations in his later scientific texts (Naydler 2009). Several references to insights into plant metamorphosis can be found in his travel book, which has the form of a diary, which were inspired by the Padua botanical gardens and particularly the nature in Sicily.

According to Goethe, the best research instrument is man himself. At the time when he carried out his own natural scientific research, a strong quantitative research approach prevailed. Technical instruments such as microscopes and the mathematical theories linked with them reduced the research object to measurable units and thus distanced it further from the reality that could be perceived by the senses. If one forgets the qualitative dimension of the research object, it becomes difficult to comprehensively understand it. Such characteristics which link the object to a wider field of phenomena are specifically qualitative and render it meaningful for the human mind that always strives to understand larger totalities (Bortoft 1996).

In other words, Goethe saw that quantitative natural scientific research only serves a technical interest for knowledge that endeavours to manipulate nature. However, he did not consider the technical interest for knowledge as having a lesser value as a premise for research, but rather was of the opinion that different kinds of interests have their own important roles. To demonstrate this, Goethe divided scientists into four different types: utilizers, fact-finders, contemplators and comprehenders. 'Utilizers' clearly represent the technical interest for knowledge that aims at practical benefits. 'Fact finders' are interested in finding scientific facts for themselves and for the sake of science. 'Contemplators' strive already to interpret their findings and give them meaning. Finally, 'comprehenders' strive to understand wider totalities. According to Goethe, the researcher must continuously be aware of what type of science he is practicing and choose the methods accordingly (Naydler 2009, 37-38).

Goethe did not accept the idea that science only belongs to the practitioners of science, those carrying merit within the scientific community and following the approved canon. His almost zealous position on this issue is evident in the case where he presented his own alternative colour theory as an antithesis to Newton's corresponding theory. Newton's position of authority was unchallenged at the end of the 18th century, but Goethe was sceptical towards Newton's conclusions, according to which white light contains all the colours. According to Goethe's intuitive reasoning, colours placed on top of one another produce a dark surface and not at all white light. In line with his own principles, he carried out the same prism experiment as Newton had, but his observations led him to completely different conclusions. His attention was caught by the always reoccurring observation whereby the colours occur only at the border between the light and dark areas. (Goethe 2006).

Without going further into colour theory and physics, one can note that in its time Goethe's colour theory did not receive much approval. He was known as an author, and for whom science was merely a hobby. The situation was not much improved by the fact that he attempted to show that Newton had transgressed from his own method, whose empirical premises was supposed to be its hallmark. According to Goethe, however, Newton did not base his conclusions purely on empirical observations, but instead too one-sidedly paid attention to observations which supported the convenient theory. Physicist and philosopher of science Henri Bortoft (Bortoft 1996) has arrived at the same conclusion. Also nuclear physicist and Noble laureate Werner Heisenberg

(1901-1976) in the 1940s and 1950s considered the incongruity between Newton's and Goethe's colour theories, while at the same time admitting that both were relevant and operable from their own premises (Sepper 1988, 7-8). Characteristic for Goethe's methodology was that even though his own colour theory was difficult to link to natural scientific theories it is nevertheless the theory most applied by artists.

Goethe's work in science and the philosophy of science is incredibly extensive, comprising in addition to colour theory, for instance, the theory of metamorphosis in the plant world, for which he developed a particular morphological method. Nowadays, for instance, urban morphology is becoming a scientific discipline in itself, but few researchers in the field know that the term 'morphology' and the method describing it originally was introduced by Goethe. At the core of the morphological method lies the ability to make larger entities comprehensible. Generalising in relation to the plant world, one can say that plants can be studied analytically by chopping them up in increasingly smaller parts all the way to the cell and molecular levels, and in this way obtain information that links the plant to biological, physical-chemical and finally mathematical theories. By means of the morphological method, on the other hand, one can study the dynamic change in the form of a plant's internal and external influence of forces, and in this way understand the diversity of the plant kingdom as part of the whole of nature as perceived by the senses.

In summation, one can say that according to Goethe's viewpoint, analytical-rational methods in themselves are insufficient for acquiring an understanding of nature such that, on that basis, the technical interest for knowledge could be applied confidently. Parallel to this, there is a need for a better understanding of the meaning relation between the totality of nature and its parts, an understanding that stems from qualitative methods. Now, amidst the chaotic mega-cities and burning environmental problems of our time, we are in a position to consider the relevance of such a notion.

The fact that Goethe studied nature and strived to acquire an in-depth understanding of its processes does not in itself make his method an organic one. Many others, too, have followed similar methods. The core of Goethe's own thinking is the idea that in the organic method there is no separation between the researcher and the research object. This requires that the studied object – and not the representation of the object – is empirically observed with such attentiveness (c.f. 'contemplators') that the principle linking and systematising the observations begins to grow from the observation sample. According to this logic, the researcher is an active participant in the process of nature, rather than a passive observer. The researcher in a way continues nature's process by turning it into a 'higher nature' by creating meaning relations that give form to totalities (c.f. 'comprehenders') (Bortoft 1996, 240). The organic method makes it possible to conceptualise phenomena so that the diversity of the field of the phenomena can be preserved. Goethe admitted that the method is extremely demanding because of man's natural proclivity to place phenomena in ready-made categories instilled in the mind by scientific authorities.

Here we arrive at the creative aspect of the organic method. Researchers must in a way operate without a safety net, in the sense that they do not strive to verify through empirical means some theory that revolves in their own mind and by means of which they study their object. Instead, they must let the study object shape their own mind without preconceived notions, and must be able gradually to recognise that new shape which thus emerges. This type of method is just as much artistic as scientific (Bortoft 1996, 240-246). Clearly there are points of contact here with Aalto's design approach. This is exactly how he proceeded in manifesting a new type of community in his regional plan for the Kokemäki valley.

Aalto's deep organic design approach

The artistic creative approach of the organic research method also links it to the design work of architects. One could say that architects carry the baggage of history. History and various doctrines offer a hugely diverse repertoire for

architects to make use of, and from which they can draw appropriate solutions and forms for each particular situation. In their design work, architects have to balance between these historical inputs and the case by case requirements. The creative aspect really comes to the fore when there is a conflict between these. From the physical design object and its socio-cultural context there emerges a new type of solution, which initially is hard to recognise and perceive because an existing conceptual framework is lacking. Aalto, too, spoke in his Kokemäki valley plan only about a new type of community but did not specify the type in any more detail. Only much later have researchers developed such concepts as Regionalisation, Zwischenstadt or Netzstadt, and made these concepts comprehensible through numerous articles, books and lectures.

Here again it is worth referring to Goethe, whose one great methodological insight was that the history of science is science itself. By this he meant the accumulated structure of doctrines, practices and theories in the work of the scientific community, which by its authority easily directs even completely new types of findings on to more comprehensible and familiar tracks. Goethe also stated that the research object is its own theory. The reference applies specifically to the previously-mentioned observation that a new shape can be identified without there already immediately existing a conceptual context for it. The situation is typical for creative work, where the finding may create uncertainty, disbelief and even anxiety when it cannot be named or placed within familiar categories. Conceptual links and wider meaning relations then come about gradually (Naydler 2009).

Also Aalto spoke on many occasions about how architecture does not need to be explained, because it is its own explanation. In Aalto's view, even the most sophisticated explanations cause misunderstandings when relying on metaphors that refer to other fields outside architecture. It was indeed Zevi who remarked that the metaphoric approach is the veritable opposite to organic architecture, which comes about from doing and actually working on the existing situation and material. Aalto's famous exclamation indeed goes: 'What an architect says doesn't mean a damned thing.' (Schildt 1997, 8) The quote can be placed within an intriguing context where Aalto was criticized for Villa Mairea. He was seen as a turncoat who relied on complex explanations, having designed a luxury house for an elite family, while previously having propagated for high-quality social housing production (Koho 1998, 55). The case describes just as well the previously-mentioned historical baggage as the difficulty of talking about creative work. It is interesting that the same thought, formulated slightly differently, can be found in the book *Kindergarten Chats* by Louis Sullivan, considered a pioneer of organic architecture, the texts of which were published for the first time in 1901-2 and revised in book form in 1918 (Sullivan 1979, 33): 'We will seek and find the architect through the meaning of his executed work, not through his words, gestures, or suavities.'

Despite the fact that talking about architecture is difficult, one important quality of organic architecture, according to Giedion, is recognisability and comprehensibility. This observation refers to a certain kind of historical continuity. Also Aalto's design palette contained a wide repertoire of elements that made identification easier. Demetri Porphyrios analyses Aalto's production specifically from this angle in *Sources of Modern Eclecticism. Studies on Alvar Aalto* (1982). According to him, 'Aalto had clearly understood that architectural form becomes meaningful only when typologically codified.' (ibid. 26) Without going more deeply into the text in question, I would note nevertheless that the eclectic interpretative method for analysing Aalto's architecture is in my opinion fully acceptable because it highlights his way of realising the diachronic dimension of temporal continuity that makes recognisability easier in organic architecture. For this purpose Aalto used his own unique repertoire, just as all other architects use theirs. Nevertheless, the one-sided analysis of Aalto's architecture from this diachronic perspective gives little attention to the important aspects of his skill as a designer. For example, the eclectic interpretative framework does not help in trying to understand Aalto's regional planning. My objective is to find such a conceptual level that would help us to perceive Aalto's design approach and its deeper undercurrents and through this his whole production.

On this basis, one would naturally conclude that something with a 'natural form', or the lack thereof, does not in itself tell us anything about organic architecture in the deeper sense of the concept.

On this basis, one would naturally conclude that something with a 'natural form', or the lack thereof, does not in itself tell us anything about organic architecture in the deeper sense of the concept. 'Naturalness' is much harder to establish in the built environment because it can just as well be linked with the functional properties of the region or architecture as with the methods of producing it. Paraphrasing Zevi (1950), the criterion for determining organic architecture is specifically the methodological dimension. The important question is: to what extent can architects fight for such a state of balance where their object can be shaped in the interim terrain between internal and external pressures without being reduced to a mechanical expression of eclectic, technical or theoretical diagrams?

The concept of 'fight' has here been used with careful consideration. According to Frank Lloyd Wright's well-known words, 'An organic architecture means more or less organic society.' (Wright 1939) If this were literally true, Aalto's architecture would not exist. Aalto himself viewed planning as a rather independent and even emancipatory type of human and social activity. According to him, planning has a potential that societies can utilise when desiring to steer development in a direction that is humanely dignified. This viewpoint is evident in an article by Aalto from 1949, 'Finland as a model for world development', in which he calls plans 'ethical tools for achieving progress, curbing excess concentration, guiding us where blind development fails...' (Aalto 1949). He also spoke on many occasions about how planning is a means by which cultural forces are brought to the built environment that otherwise might be dominated by technical-economic interests. It requires from architects a strength of will, authority and social skills that Aalto himself had in abundance.

The artistic approach to the work is a central part of the organic method. Goethe did not differentiate between his artistic and scientific activities because he considered both these as continuing nature's activities on a higher level of meaning. According to him, man, in being a creator of meanings, is the best possible conveyor of qualitative research. In the same way, Aalto considered architectural design as an activity that belonged more in the sphere of art than technology. He did not strive to solve the contradictions and complexities contained in design tasks through rational models, but rather he applied a contemplative method where, after having first carefully familiarised himself with the task, he could put it aside and begin to paint abstract paintings. There was something in this process that helped Aalto to find design solutions and ideas for form which allowed the charged and even contradictory coexistence between elements and themes (c.f. Venturi 1966).

But having an artistic approach does not mean that Aalto's actions would not have been rational. On the contrary; for example, the design process of the Paimio Sanatorium shows that Aalto's approach to the design of a hospital environment was extremely rational in its systematicness, but at the same time also contemplatively empathetic, when he put himself in the position of the patient, thus taking as one particular starting point for the design the ultimate client of the building. Likewise, in drawing up the regional plans for the Kokemäki valley and Lapland, Aalto sought assistance from top experts in various fields and had carried out for him diverse background research. Irrespective of the large scale and extent of the work, the person living in the area and the everyday environment were still at the centre of his design work. Aalto's understanding of rationality is very much evident in his remark that the rationalisation promoted by the functionalists only goes half way when it one-sidedly focuses on the increase of technical-economic efficiency (Schildt 1997, 150-157).

The relevance of the organic approach

It may seem somewhat contradictory that in the present study I have relied a lot on Aalto's texts, even though, at the same time, I have remarked that Aalto himself had such a denigrating view towards his own proclamations. The choice of texts is, however, not coincidental in that they contain issues which recur over a long time span, yet always slightly differently formulated. One can assume that they are an accurate reflection of both Aalto's skill as a designer

and his design approach. Additionally, his text accompanying the Kokemäki valley regional plan is a central part of the plan.

Also the abundant comparisons with Goethe may raise certain questions. I am not aware that Aalto would have been particularly familiar with Goethe's works or drawn inspiration from them for his own work. On the other hand, Aalto did occasionally refer to Goethe in speeches and texts, including special reference to *Italianische Reise*. It is known that German was Aalto's strongest language after Finnish and Swedish. An interesting common factor between Goethe and Aalto is that both of them throughout their entire lives were captivated by their Italian journeys. Both studied local culture, architecture and the landscape through drawing. During his own trip, Goethe even received drawing lessons from a professional artist, but towards the end of his journey felt the need to state that fine arts were not his field of expertise. Aalto's sensitive and spontaneous travel sketches, drawn with a vibrant pen line, in which he picked out intriguing details and moods, show his mastery even in this field.

Such similarities are, however, not essential for the main theme of the present study. I have used Goethe's insights in the philosophy of science as an interpretational key, with the help of which I have strived to understand the underlying principles of Aalto's design thinking and approach, and thus further offer new interpretational keys to a profound understanding of his works. However, my study also has a wider objective beyond Aalto, as I hinted at in the introductory section. In my opinion, there is a strong need at the present time to understand organic architecture and the organic design approach when new technology-focused digital methods of design, analysis and modelling are in the process of taking over the field. In addition, extensive social processes are taking place which compel us to seek a new kind of relationship with nature, if we consider, for example, climate change or the relationship with our own body.

The digitalisation presently taking place in developed societies and cities is generally seen as a worthy window of opportunity. For example, the expanding and deepening debate around the theme of the Smart City started with the supposition that new smart technology can be utilised in the necessary transition of societies towards more ecological culture and practices, such that the efficiency of daily life and the quality of life will improve. It was people's activities in cities that led to the creation of digital data, which in turn can be collected for different 'cloud services', and which can be further utilised through new technology for the rationalisation of the functions of society, and consequently saving time and energy.

At the same time, however, one can observe how the analogical culture strives to raise its head from the fringes of the digital mainstream. For example, vinyl records have already made a comeback and musicians have acquired among their instruments analogical synthesisers used during previous decades, to the extent that many instrument manufacturers have returned these to their range in improved versions. It has been predicted that the film industry is dividing in two, so that the mainstream is comprised of digitally produced mass films, parallel to which are films made in a traditional way for a smaller audience. 'Film is light and sound', as Aki Kaurismäki, one of the best known independent Finnish film-makers of our time, has stated.

The point being made with the previous small examples is that many people who make their livelihood from art want to preserve a more direct sensory connection to the 'material' of the artwork itself. The binary coding and decoding which is necessary for digital technology cut off the material continuity, making it clinically faultless, so that, for example, musicians themselves add small 'faults', nuances and glitches to it. An interesting and somewhat more down to earth example of man's need for physical experience and hands-on activities is urban gardening, which is presently enjoying an upswing in cities. Even though there are no doubt social and ecological reasons behind the phenomenon, one cannot but consider the human need to push one's fingers in to the rich soil and physically observe the production chain of one's own food. Some part of us wants to be more of an actual doer than a virtual receiver.

When talking about analogue culture, one is also talking about technology – to which there surely is no return to in its old form. It does not, however, need to be only a metaphor, even though analogue in this context indeed represents above all a sensory-physical connection to a world that we have built and its cultural products. One could also think that the analogue technology could be rediscovered in a new way. The first example that comes to mind to the architect writing the present text is the natural ventilation in new housing developments, which at least in Finland at present cannot be achieved in practice. Current norms prevent it and a more appropriate technology has not been developed. Each one of us could easily come up with similar examples.

In order to avoid misunderstanding, I should point out that as I see it there are no instances where there is a need to completely disregard digital technology and replace it with something simpler. Digital technology offers efficient methods and tools to manage large entities. The complexity of societies and urban areas requires the analysis of enormous amounts of data, as well as modelling structures and processes. But it is also important to note that at the same time our entire culture has taken a leap towards quantitative rational logic. A technosphere is in the process of growing up around us, which seemingly innocently conveys and filters our experiences of everyday life, our built environment and even other people.

A somewhat similar phenomenon was experienced in Finland in the 1960s and 1970s when a large part of the rural population moved to the cities. As a solution to the acute housing shortage, building technology and methods of production were rapidly developed based on a system of prefabricated concrete elements. In striving for efficiency, the humane values of the built environment took second place, subsequently leading to social problems and segregation. Additionally, the rapidly adopted technology itself proved problematic with time. Presently, we have on our hands a huge amount of floor area in undervalued building masses in bad need of repair.

But if we travel back in time a bit, we encounter a period when the visions offered by new technology were even more dizzying. In 1923, when Alvar Aalto was beginning his architect career, a book was published featuring images of streamlined cars, aeroplanes and ocean liners, though the accompanying text referred to architecture. It seems paradoxical, but Le Corbusier's *Vers une Architecture* (Towards a New Architecture, 1986/1931) is an interesting read if we want to further deepen our understanding of organic architecture through Alvar Aalto's life's work.

References

Aalto, A. 1943. *Kokemäenjoen aluesuunnitelma*. Pori.

Aalto, A. 1949. Valtakunnansuunnittelu ja kulttuurimme tavoitteet. *Suomalainen Suomi* 5/1949. Also in Schildt, G. ed. (1997). *Näin puhui Alvar Aalto*. Helsinki: Otava.

Bortoft, H. 1996. *The Wholeness of Nature. Goethe's Way Toward a Science of Conscious Participation in Nature*. Edinburgh: Floris Books.

Giedion, S. 1941/2008. *Space, Time and Architecture. The growth of a new tradition*. 5th revised and enlarged edition. Cambridge, Massachusetts: Harvard University Press.

von Goethe, J.W. 1970. *Italian Journey (Italienische Reise, 1817)*. Translated by W.H.Auden and Elizabeth Mayer. Harmondsworth, Middlesex: Penguin Books Ltd.

von Goethe, J.W. 2006. *Theory of Colours. (Zur Farbenlehre, 1810)*. 1st English edition 1840. Translated with notes by Charles Lock Eastlake. Mineola, New York: Dover Publications.

von Goethe, J.W. 2009. *The Metamorphosis of Plants* (. *Versuch die Metamorphose der Pflanzen zu erklären, 1790*). Introduction and photography by Gordon L. Miller. Translated by Douglas Miller. Cambridge, Massachusetts: The MIT Press.

Koho, T. 1998. *Alvar Aalto. Muutoksen etsijä*. Helsinki: Rakennustieto Oy.

Le Corbusier 1986. *Towards a New Architecture* (*Vers une architecture, 1923*). 1st English edition 1931. Translated by Frederick Etchells. New York: Dover Publications.

Mikkola, K. 1985. *Aalto*. Jyväskylä: Gummerus Oy.

Naydler, J., ed. 2009. *Goethe on Science. An Anthology of Goethe's Scientific Writings*. 4th printing, first published in English in 1996. Translated by Douglas Miller. Edinburgh: Floris Books.

Nupponen, T. 2000. *Arkkitehdit, sota ja yhdyskuntasuhteiden hallinta*. Helsinki: SKS.

Oswald, F. & Baccini, P. 2003. *Netzstadt. Designing the Urban*. Basel: Birkhäuser.

Pelkonen, E-L. 2009. *Alvar Aalto. Architecture, Modernity, and Geopolitics*. New Haven and London: Yale University Press.

Porphyrios, D. 1982. *Sources of Modern Eclecticism. Studies on Alvar Aalto*. London: Academy Editions.

Rautsi, J. 1984. *Alvar Aallon toteutumattomat alueuunnitelmat ja kokeilukaupungit – vaihtoehtoinen suomalainen kaupunkimuoto*. Helsingin yliopisto.

Rautsi, J. 1998. Alvar Aallon toteutumattomat alue- ja kaupunkisuunnitelmat. In Tuomi, T., Paatero, K. & Rauske, E., eds: *Alvar Aalto seitsemässä talossa. Tulkintoja arkkitehdin elämäntyöstä*. Helsinki: Suomen rakennustaiteen museo. Pp 169-183.

Ray, N. 2005. *Alvar Aalto*. New Haven and London: Yale University Press.

Schildt, G., ed. 1997. *Näin puhui Alvar Aalto*. Helsinki: Otava.

Sepper, D.L. 1988. *Goethe Contra Newton. Polemics and the project for a new science of color*. Cambridge: Cambridge University Press.

Sieverts, T. 2003. *Cities Without Cities. An interpretation of the Zwischenstadt*. London and New York: Spon Press.

Sullivan, L.H. 1979. *Kindergarten Chats and Other Writings*. First published 1918. New York: Dover Publications, Inc.

Vartiainen, P. 1988. "Seutuistuminen yhdyskuntasuunnittelun haasteena". *Terra* 103, pp. 75-86.

Venturi, R. 1966. *Complexity and Contradiction in Architecture*. New York: The Museum of Modern Art.

Wright, F.L. 1939. *An Organic Architecture. An Architecture of Democracy; The Sir George Watson Lectures of the Sulgrave Manor Board for 1939*. London: Lund Humphries & Co.

Zevi, B. 1950. *Towards an Organic Architecture*. London: Faber & Faber.