

## **Alvar Aalto**

The Organicity of Quotation

## **Andrew Metcalf**

University of Canberra

### **Abstract**

“... I would like to add as my personal, emotional view that architecture and its details are in some way all part of biology”. (Alvar Aalto, 1947). *Beginning with a discussion of the full text from his The Trout and The Stream article in Domus, the intention of this paper is to inspect and historicize the frequently voiced representation of Alvar Aalto (and indeed it is his own self-portrayal) as an “organic” architect. In addition to his self-characterization, a sample of parallel citations including Siegfried Giedion’s “... leap from rational-functional to irrational-organic ...”, Bruno Zevi’s installation of Aalto in the post WWII organicist canon, Kenneth Frampton’s analysis of the Aalto’s “organic collage” and “organicist forms” and Göran Schildt’s talking about “the forest wisdom,” position Aalto as organic right up to the present day. After tracking the historical roots of the term organic with a reading of from the literature of organicism in architecture including one contrary position. This paper also inspects the organicist/mechanicist binary opposition in philosophy, to find it not commutable into architecture. Accordingly, organicism is better understood within the specificity of Aalto’s work and the analysis of it. The architect’s 1945-6 Sawmill project at Varkhaus is then surveyed as an example of an organicist work that Aalto himself called organic. The conclusion maintains its apt to use the organicist descriptor for Aalto providing its understood as a strand interacting with others in his work.*

There is a conception from his own utterances, and those of commentators, that Alvar Aalto's architectural work is conceptually and materially organic,<sup>1</sup> and that he therefore belongs to the category of twentieth century organic architects. Surprisingly, the principal dictionary definition of organic is "...of the bodily organs" and "Having organs or organized physical structure, of animals or plants..." with the inference that the term applies exclusively to living things.<sup>2</sup> However, to sufficiently encompass Aalto, it is constructive to look at the related word *organize* which means to "... form an organic whole", presumably from various things that are disaggregated. Yet, far from dismissing disaggregation, Aalto embraced it as is manifest in the drawings and buildings. Further, in the Aaltonian purview, the term *organic* is not ascribed solely to living things as the lexicography has it, but to geological forms as well. As he said in *The Trout and the Steam*, "Abstract art is the result of a process of crystallization".<sup>3</sup> His including a non-living, geological category under the aegis of organicism was partially inspired by reading of Goethe's geomorphic sightings in the Italian Alps.<sup>4</sup> Indeed, many have commented on the geological metaphors that pear in Aalto's work. Kenneth Frampton, for example, says; "... geological metaphor assisted him in establishing the identity of the place through the way in which the built form extends itself into the site".<sup>5</sup> My aim, in what follows, is to further explore the term organic as it has been applied in architecture and to trace it in Aalto's case through what he has said and what the historiographical maneuverings of others have returned over time, and then to look closer at a building that he labelled as organic himself.

In 1947, Ernesto Rogers commissioned Aalto's well-known article, *The Trout and the Stream*, for a *Domus* issue on abstract art and architecture. In his text, Aalto firstly discussed an interchange of ideas between architecture and abstract art, before proceeding to an anecdote based on his own experience of the apocryphal tangle of multiple constraints and requirements endemic to architectural design. In such a situation he said he often works obliquely and analogously using a conjunction of 'childlike' sketching in association with a slightly removed, subconscious grasp of the problem, so that as he put it "... in this way, proceeding on an abstract basis, the main idea gradually takes shape, a kind of universal substance that helps me to bring the numerous contradictory components into harmony".<sup>6</sup> For example, in the Viipuri Library project Aalto recalled drawing "... all kinds of mountain landscapes "to resolve the stepped floors and platforms that eventually became the primary interior forms. Thus, the conceptual leap implied by areal but trying architectural problem, is transferred analogously to the relatively inspirational world of natural things, which are, of course, in a permanent state of disaggregation. Then, once a conceptual breakthrough occurs, it is transferred back again to receive a tangible architectural form. Significantly, others have used an analogical technique to attain imaginative outcomes: for instance, Aalto's method is broadly comparable to that of the art historian Aby Warburg whose 1895 digression into American Indian culture eventually furnished him with enhanced insights into sixteenth-century Florentine culture almost three decades later, although he didn't know this would occur when he visited the Pueblo Indians in the 1890s.<sup>7</sup> In Aalto's case, the extended scope of the term organic to include non-living things, and his proclivity to create architecture by working analogously, instantiates his 1947 declaration that "... architecture and its details are... part of biology". In the same *The Trout and Stream* essay, he again uses analogy to explain his methodology for the accessing of prescient ideas:

Perhaps they are, for instance, like some big salmon or trout. They are not born fully-grown; they are not even born in the sea or water where they normally live. They are born hundreds of miles away from their home grounds... Just as it takes time for a speck of fish spawn to mature into a fully-grown fish, so we need time for everything that develops and crystallizes in our world of ideas. Architecture demands even more of this time than other creative work.



**Figure 1.** LHS: Villa Mairea, Alvar Aalto, 1938. Image by Phillip Pessarand RHS: Falling water, Frank Lloyd Wright, 1936. Image by Carl Merkin. Both images licensed under CC BY 2.0.0

It is salutary in comprehending Aalto's position to sight Frank Lloyd Wright and Hugo Häring as they represented influential, but diverse, ideas on organicism spanning from total design to the inspirational agency of nature. In 1910 Wright described "organic architecture" as the integration of building, furnishings and landscape (everything) to create what he called "... an organic entity" that made the "... human dwelling-place a complete work of art".<sup>8</sup> Häring, who opposed Giedion and Corbusier's functionalist emphasis in the early CIAM, argued for a distinction between what he called natural form and geometrical form in saying: "We no longer take a motif ... out of the geometrical world but take it instead from the world of organic forms ... in order to create life, we must create as nature does, organically and not geometrically".<sup>9</sup>

Even though, as we have seen, Wright referred to his own architecture as organic, this was not reflected in Henry-Russell Hitchcock's Wright 1942 survey *in the nature of materials, 1887-1941*.<sup>10</sup> Afterwards in 1948, the Museum of Modern Art in New York, staged the *What is Happening to Modern Architecture?* Seminar where leading figures such as Alfred Barr, Gropius, Breuer and Hitchcock himself considered the emergence of what was then called 'the new cottage style' as a counterbalance to the 'international style' but none of the 13 contributors made any references to organicism, even in reference to Wright.<sup>11</sup> Interestingly, despite the ongoing interest in Wright's work, it was not American, but European inputs that furthered the theoretical and applied interest in organicism during the second half of the twentieth century.

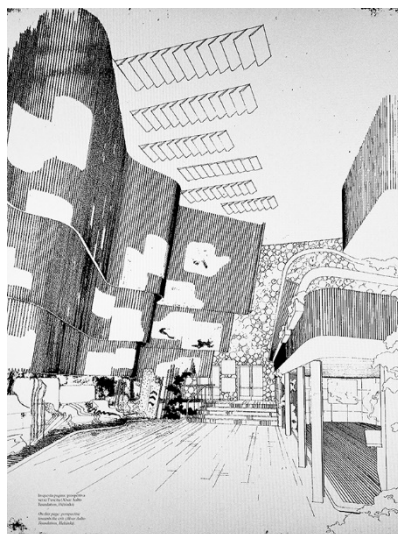
At the end of the Second World War, Bruno Zevi, an anti-Fascist post-graduate student, returned to Italy from sanctuary abroad. He swiftly co-founded APAO, the *Association for Organic Architecture* and established a relationship with *Metron*, the progressive architectural magazine. Then in 1945, he published his first book, *Towards an Organic Architecture*. These activities indirectly sanctioned an organic reading of Aalto's work. Stressing the non-stylistic quality of organicism, APAO's second foundational principle merged the ethics of anti-fascism with those of 'organic' architecture:

Organic architecture is social, technical and artistic (at the) same time as it seeks to create the environment for a new democratic society. Organic seeks to create the environment for a new democratic society Organic architecture is therefore the antithesis of monumental subservience to the mythical state. It is opposed to (the) major axis and the minor axis of contemporary neo-classicism ... and the fake neo-classicism that hides behind pseudo-modern forms of monumental architecture today.<sup>12</sup>

With Frank Lloyd Wright and Alvar Aalto as the key exemplars, Zevi prescribed organicism as a method based largely on the design and manipulation of space; what he called thinking spatially, from the inside out: “The secret of the poetry of Wright and Aalto (is)... (in) their thinking architectural, interior space, and only at a later time, and depending on the interior space, they are interested in ... volume and decoration”.<sup>13</sup> But, is this is literally true of Aalto and Wright? In Wright’s *Falling Water* and Aalto’s *Villa Mairea*, so pronounced is the expression of exterior form, that it is hard to accept that both projects arise solely from a consideration of interior space. Not surprisingly, Aalto’s 1939 Finnish Pavilion at the New York World’s Fair rates as an instance of pre-eminent interior form, but with the obvious corollary that as an interior project it had no exterior form to speak of. Arguably, Zueva’s “organic” classification applied more directly to Wright, but his assigning of it to Alva Aalto persisted nevertheless.

From the time Sigfried Giedion’s Aalto chapter appeared in the 1949 second edition (8<sup>th</sup> printing) of *Space, Time and Architecture*, the year 1930 was pivotal in the historian’s appraisal of Aalto and organicism in the Anglophone world. He argued it was in 1930 that Aalto’s name became known outside Finland. It was also a time when “... painters like Joan Miró and Paul Klee, whose work is closely bound to the organic and the irrational, were coming to the fore. A similar event was about to happen in architecture”.<sup>14</sup> Then, ostensibly expanding the canon to accommodate Aalto, Giedion suggested that around 1930, anew expressive means had arrived so that “...now it is possible to strive for further development and to dare the leap from the rational-functional to the irrational-organic”.<sup>15</sup> Aalto’s architecture did undergo just such a change in the early 1930s, and consequently, he is classified as “irrational-organic “along with Miró and Klee. At the same time, Giedion linked Aalto to a specific organic quality he noticed in Finland. In a comparable manner to Miró’s motivating engagement with his native Catalan landscape, Giedion maintained, “Aalto found a direct incentive in the curved contours of the Finnish landscape, shaped with astonishing smoothness by nature itself and set in high relief by forest masses pressing on all sides down to the water’s edge”.<sup>16</sup> Similarly, expressing Aalto’s deep connection with the forested Finnish landscape, Aalto’s biographer Göran Schildt imbued his subject with what he called “forest wisdom “when he said:

Insight into the world of the forest ... is at the heart of everything Aalto created, a biological experience which never allows itself to be overpowered by technocratic civilization or short-sighted rationalism. This is not a matter of romanticism or mysticism, but ... an extreme sense of reality, a sharing of nature’s own wisdom and rationality.<sup>17</sup>



**Figure 2.** Finnish pavilion for the 1939 New York World's Fair, Alvar Aalto. Courtesy of the Alvar Aalto Foundation.

For Aalto, landscape and what he called “natural organic life” have an inherent capacity to mediate architecture in a profound way. In 1938, at the time of designing the *Villa Mairea* and the New York World’s Fair Finnish pavilion, he declared in a lecture that “...the purpose of everything I have said so far is to underline that variety and growth reminiscent of natural organic life are the very essence of architecture. I would like to say that this is ultimately the only true style of architecture”.<sup>18</sup>

Much later, in *Sources of Modern Eclecticism* (1982), Demetri Porphyrios also avoided the open-ended term organic in favour of the descriptive word “naturalism.” He also pushed organicism’s chronology back to the late 18<sup>th</sup> century and the origins of the *picturesque* movement in England. From this Porphyrios contended that naturalism connected Aalto to the widespread cult of nature that flowered in industrialized Europe. Whilst possibly the Foucault inspired homotopia-heterotopia binary pairing governed his project, Porphyrios did include passages that can be parsed into the story of Aalto and organicism:

... what is peculiarly aesthetic about the picturesque enthusiasm for landscape in the case of both the Enlightenment and Aalto becomes particularly evident in the notion of ‘setting.’ For the decisive factor in the aesthetic of the picturesque is not the antithesis between city and country but rather the sensuous secularization of nature: nature assumes the status of a setting, a backdrop, a spatial and physical *mise-en-scène*.<sup>19</sup>

And also:

The conception of the picturesque – simultaneously as a compositional sensibility, a preoccupation with the landscape as ‘setting’, and the quintessence of the building as ‘ruin’ – is undoubtedly linked with the philosophy of subjective anesthetization of nature.<sup>20</sup>



**Figure 3.** Armchair 41, Paimio Sanatorium, 1932, Alvar Aalto. Vitra Design Museum

Arguably, the most familiar early manifestation of Aalto’s organic swerve is the Viipuri Library lecture room ceiling, which appeared before the 1935 completion of a drawn-out project, which began with a competition win in 1927. Aalto’s questionable explanation that the conspicuous curved wood ceiling was primarily derived from acoustic criteria overlooks several antecedents in his own work including the vaulted ceiling of the 1930 design submitted for the Tehtaanpuisto Church competition and, at a very different scale, the early experiments with steam-bent wood furniture dating from 1929 which

rapidly evolved into the organicist *Armchair 41* in bent birch plywood for the Paimio Sanatorium in 1932.<sup>21</sup>

Its notable that some historians seem to have delayed accepting these early organicist tendencies in Aalto's work of the late twenties and early thirties. Kenneth Frampton for instance, who, aside from classifying this furniture and Aalto's detailing at Vipuri and the Paimio sanatorium as "organic" and then alluding to the "rhetorical display of wooden construction" in the 1937 Paris Pavilion,<sup>22</sup> almost completely delayed his discussion of the organic in Aalto's work until 1998 and his essay in the *Alvar Aalto: Between Humanism and Materialism* centenary exhibition catalogue.<sup>23</sup> There, Frampton interprets Aalto's shift away from the modernistic late 1920s Turku works to the 1935 Helsinki house project with his wife Aino, as a turning towards organicism which he says is "unequivocally expressed. "Curiously however, he links it to an earlier period in saying "...organic collage has been seen, in part, as a return to the Finnish national romanticism of the 1890s".<sup>24</sup> For Frampton, national romanticism was also an important interpretive mainstay of his Aalto chapter in *Modern Architecture: A Critical History* presumably thought out and drafted in the late 1970s.

Even though Aalto himself used the word 'organic' to characterize his architecture, not everyone agrees with a widespread usage of the descriptive term in his case. In 2012 Dörte Kuhlmann reasoned that Aalto was not especially organic compared to architects like Herb Greene and Andre Markovecz. She argued that, for Aalto, even though his works may signify unspoilt nature, distorted geometry and the use of natural materials, these did not necessarily make him an organic architect. For Kuhlman, Aalto's so-called natural architecture was more a product of abstract thinking; he had an ability to initiate ideas and then incorporate the necessary functional content afterwards. Suggesting an alternative interpretation to organicism for Aalto, Kuhlmann found the source of his ostensible organic shapes could also have been the correlative potential of abstract art and architecture that he appreciated in the work of the artists in his own circle such as Leger and, especially the:

... softly curved, organic shapes that had been produced by Hans Arp since about 1930. Throughout his career, Aalto himself often acknowledged the influence of contemporary art on his designs and seems to have seen in abstract art, a model for his architecture.<sup>25</sup>



**Figure 4.** 4. Hans (Jean) Arp, *Le Fils du Nombri (The Son of the Navel)*, 1957 by Sharon Mollerus is licensed under CC BY 2.0

An open-ended tracking of the origins of organicism reveals a long history in European and American scientific discourse stretching back to the 17<sup>th</sup> century.<sup>26</sup> Within architecture, instances of organicist

thinking are traceable to the second half of the nineteenth century when parallels were first drawn between a properly realized work of art and nature itself i.e. a work of art understood as an organism created in accordance with natural processes.<sup>27</sup> In addition, organicist tendencies in architectural ornament spread rapidly in the 1850s with the popularity of John Ruskin's *Stones of Venice* (1851) and Owen Jones' *The Grammar of Ornament* (1856),<sup>28</sup> both of which included illustrations of plant forms that could be appropriated as surface decoration. By the end of the 19<sup>th</sup> century, as Joseph Rykwert explained, "Organic architecture ... had its focus in the inventions of Sullivan and Root, their Chicago (and later their West Coast) contemporaries as well as the burgeoning Art Nouveau movement in Europe..."<sup>29</sup> Although Art Nouveau was short lived, its pre-occupation with forms and surfaces derived from plants (in Horta and Guimard's work for example) was influential.<sup>30</sup> In Finland the contemporaneous National Romanticist style work of architects such as Lars Sonck, and the firm of Gesellius, Lindgren and Saarinen combined Richardsonian influences and local vernacularisms in buildings that often dramatized their sites and included organic decoration, notably in interiors.<sup>31</sup> The tangible relationship of Aalto to the leading Helsinki firm is evidenced in Armas Lindgren being one of his teachers<sup>32</sup> and Saarinen being someone he respected as a sort of yardstick against which he measured himself.<sup>33</sup>



**Figure 5** "Einstein Tower" by Alice Popkorn is licensed under CC BY 2.0

As George Baird discovered,<sup>34</sup> the organicist tradition occurred in a historical context that goes beyond the relatively limited scope of an individual building to the scale of society itself. For example, Ferdinand Tönnies' influential 1897 book *Gemeinschaft und Gesellschaft* (literally, *Community and Society*), joined the ideas of the organic and the community together: "... in a conceptual model of society now well-known for the invidious contrast between what is depicted as the authentic and organic harmony of community and the materialistic fragmentation of society".<sup>35</sup> In his 1915 book *Cities in Evolution*, Patrick Geddes argued that virtually identical evolutionary processes existed in both biology and society. Furthermore, organicist ideas are known to be central to Lewis Mumford's early intellectual development,<sup>36</sup> and it was not through architecture but sociology that Frank Lloyd Wright came upon organicism at the turn of the twentieth century. He was introduced to notions of the organic through the Chicago School of Sociology and Jane Addams whose work revealed to him the idea of an organic quality in community life; something Wright later fashioned into a more cloistered notion of fellowship at Taliesin. As noted, in 1910 Wright declared himself to be an organic architect, then in 1914 he added (and unwittingly anticipated later tenets of organicist theory): "By organic architecture I mean an architecture that develops from within outward in harmony with the conditions of its being as distinguished from one that is applied from without".<sup>37</sup> At the same time, Erich Mendelsohn, who considered himself an Art Nouveau heir apparent, visited America in the early

1920s and was impressed by the work of Sullivan and Wright, specifically the latter's Larkin Building, Unity Temple and the Heurtley House projects.<sup>38</sup>

In turn, back in Germany, Albert Einstein applauded Mendelsohn's convoluted Potsdam Observatory of 1920 - named in his honour - as "organic!" regardless of its normative classification as "expressionist" by later architectural historians.<sup>39</sup> By the start of the 1930s, this clutch of post First World War German developments found favour in Sweden and Finland and, as Rykwert has it, closed the circle to Aalto again "... the mature Gunnar Asplund and the young Alvar Aalto, shed their highly accomplished, and sometimes very lyrical, version of Schinkelian classicism for the charms of 'free form...'"<sup>40</sup>

On the fluctuations in meaning of the organic and the mechanic from antiquity to the present, Rykwert's 1992 *Organic and Mechanical* essay is frustratingly confusing, though it is possible to discern that where once they were analogous in meaning, they are now diametrically opposite. This is clear in Aalto's case: he is on the organic side and not the mechanical. By comparison, an ordinary philosophy dictionary has it that organicism means "any theory that explains the universe on the basis of analogy to a living organism," and/or "... as the function of a whole causing and coordinating the activities of the parts. "We also find that mechanical is "the view that the interaction of parts with other parts within a whole unintentionally produces purposive activity and/or functions".<sup>41</sup> In architectural discourse, discovering that a whole can be the sum of its parts in both organic and mechanic classifications is uncomfortable because a state of holistic consistency is often associated solely with the organic and not the mechanic. For example, the organic qualities in the work of Alva Aalto are rarely associated with the mechanical. Turning from philosophy to the meaning of the organic-mechanic coupling within architecture, we can readily denote Aalto's architecture as organic, so diametrically opposed was it to the unnaturalness of the mechanical.



**Figure 6.** Sawmill at Varkaus, Alvar Aalto. Courtesy of the Alvar Aalto Foundation.

In 1963, when Aalto and Karl Fleigal located two pages to the 1945-6 Sawmill at Varkaus in *Alvar Aalto, Volume 1*, they included a brief descriptive text ending with the words: "The pliable architectural forms cover the industrial activity like an organic skin".<sup>42</sup> By 1960 Aalto's office had completed large numbers of practice-sustaining industrial projects but only Sunila and Varkaus were included in the inaugural volume of his collected works. The prevailing exterior expressivity at Varkaus stems from an architectural commission where the interior, apart from the walls and roof that enclose it, is elided. In the project's 1945 context, Aalto was self-impelled to surpass the functionalist response routinely applied to industrial buildings at that time. It's exterior texture of vertical wood battens organically



QUOTATION: What does history have in store for architecture today?

expressed using curvature and continuous, radius corners, suggests an exterior version of his 1939 New York World's Fair Pavilion in New York, which itself infers an exterior form built as an interior. The sawmill's distinction lies not just in its pictographic embodiment of what Aalto took to be organic in relation to its purpose as his text declared, but also, it's belonging to what could be called an *organic* line in Aalto's portfolio.

This substantial strand of work is centred on the mid-career years of the 1930s to 1950s including the Lapua, Paris and New York exhibition pavilions, the Varkaus sawmill, MIT's Baker House, Helsinki's House of Culture, and the Three Crosses church in Imatra along with the furniture, light fittings and glassware of the period. In addition, the Aalto organic line can be glimpsed early in the Glauber salt warehouse, and perhaps to a lesser degree, the Sulphate warehouse buildings at Sunila and, and it persisted into the 1970s with some obvious elements in the Rovaniemi Theatre and the Jyväskylä Police headquarters and the Riola Church in Italy.

Alvar Aalto's architectural achievement was realized through a concatenation of inner ideation and outward material enactment, both of which are manifest in his words and buildings, and are modulated by an organicist mindset. It is the case that the modern architecture organic descriptor, influenced by standing traditions and twentieth century developments, was applied to – and accepted by – Aalto from the 1930s onwards. Lastly, it is useful to talk of lines, filaments or strands in Aalto's work, because organicism was not a singular entity but part of a heterogeneous assembly of constituents which antedated and postdated his putative organic swerve of the early 1930s.

## Endnotes

- <sup>1</sup> For Aalto, see the discussion of the Varkaus Sawmill in this text, and the term “organic” as used by Giedion, Zevi, Frampton, Schildt etc. in what follows.
- <sup>2</sup> *The Concise Oxford Dictionary of Current English*, ed. by J. B. Sykes and H. W. Fowler, 6th ed. (Oxford, Eng: Clarendon Press, 1976).
- <sup>3</sup> Alvar Aalto, “The Trout and the Stream,” in *Alvar Aalto in His Own Words*, ed. by Göran Schildt, 1st US (New York: Rizzoli, 1998), 109.
- <sup>4</sup> Johann Wolfgang von Goethe, W. H. Auden, and Elizabeth Mayer, *Italian Journey: 1786-1788* (San Francisco: North Point Press, 1982), 15-16.
- <sup>5</sup> Kenneth Frampton, *Labour, Work and Architecture* (London; New York: Phaidon Press, 2002), 254.
- <sup>6</sup> Aalto, “The Trout and the Stream,” 108.
- <sup>7</sup> Philippe-Alain Michaud, *Aby Warburg and the Image in Motion* (New York: Zone Books, 2004), 246
- <sup>8</sup> Wright, Frank Lloyd. “1910 - Frank Lloyd: Organic Architecture (excerpt)”. In *Programs and Manifestoes on 20th Century Architecture*. (Cambridge, Mass.: MIT Press., 1975), 25.
- <sup>9</sup> Häring, Hugo. “Approaches to Form (Die Form, Berlin. Vol 1, 1925), 3-5”. In *Form and Function; A Source Book for the History of Architecture and Design 1890-1939*. (London: Crosby Lockwood Staples in association with The Open University Press, 1975), 103-5.
- <sup>10</sup> Hitchcock, Henry Russell. 1973. *In the Nature of Materials, 1887-1941; the Buildings of Frank Lloyd Wright*. Da Capo Press ed. (1st ed. 1942). (New York: Da Capo Press, 1973).
- <sup>11</sup> Mumford, Lewis. ‘What Is Happening to Modern Architecture?’ Seminar. *The Bulletin of the Museum of Modern Art*. (1948).
- <sup>12</sup> Bruno Zevi, “Declaration of Principles” July 15<sup>th</sup>, 1945 Bruno Zevi, “Declaration of Principles,” (Association for Organic Architecture), trans. by Architettura Organica (Metron Magazine #2, 1945) [www.architetturaorganica.org](http://www.architetturaorganica.org) [accessed 7 October 2013].
- <sup>13</sup> Bruno Zevi, “Architecture and the Organic,” Lecture by Bruno Zevi December 6, 1947 (1st National Congress of the Association for Organic Architecture), trans. by Architettura Organica (Metron Magazine #23-4, 1948) [www.architetturaorganica.org](http://www.architetturaorganica.org) [accessed 7 October 2013].
- <sup>14</sup> Siegfried Giedion, *Space, Time & Architecture: The Growth of a New Tradition*. Fifth Edition, Revised and Enlarged. (Cambridge, Mass.: Harvard University Press, 1967), 619.
- <sup>15</sup> Giedion, *Space, Time & Architecture.*, 620.
- <sup>16</sup> Giedion, *Space, Time & Architecture.*, 640.
- <sup>17</sup> Göran Schildt, *Alvar Aalto The Early Years* (New York: Rizzoli, 1984), 34.
- <sup>18</sup> Alvar Aalto, “Influence of Structure and Material on Contemporary Architecture” in *Alvar Aalto In His Own Words*, ed. by Goran Schildt (Rizzoli, 1998), 100-1.
- <sup>19</sup> Demetri Porphyrios, *Sources of Modern Eclecticism; Studies on Alvar Aalto*. (London: Academy Editions, 1982), 62.
- <sup>20</sup> Porphyrios, *Sources of Modern Eclecticism*, 63
- <sup>21</sup> *Alvar Aalto: Second Nature*, ed. by Jochen Eisenbrand and others (Weil am Rhein: Vitra Design Museum GmbH, 2014), 512-514.
- <sup>22</sup> Kenneth Frampton, “Alvar Aalto and the Nordic tradition: National Romanticism and the Doricist sensibility 1895-1957,” in *Modern Architecture: A Critical History*, World of Art, 3rd ed., rev. and enlarged (London: Thames and Hudson, 1992), 197-8.
- <sup>23</sup> Kenneth Frampton, “The Legacy of Alvar Aalto’ in *Labour, Work and Architecture* (London; New York: Phaidon Press, 2002), 235-253.
- <sup>24</sup> Frampton, “The Legacy of Alvar Aalto’ in *Labour, Work and Architecture*, 238 and FN.11.
- <sup>25</sup> Dörte Kuhlmann, “Floating Signifiers: Interpreting Aalto,” in *Aalto and America*, (New Haven and London: Yale University Press, 2012), 43-5.
- <sup>26</sup> Joseph Rykwert, “Organic and Mechanical,” *RES: Anthropology and Aesthetics* (1992): 11–18 <http://www.jstor.org/stable/20166851> (accessed 7 March 2016).
- <sup>27</sup> Rykwert, “Organic and Mechanical,” 16.
- <sup>28</sup> Rykwert, “Organic and Mechanical,” 17.
- <sup>29</sup> Rykwert, “Organic and Mechanical,” 17
- <sup>30</sup> *Art Nouveau Architecture*, ed. by F. Russel (London: Academy Ed, 1983).
- <sup>31</sup> For example, Hvitträsk, their studio-home (1901-3) northwest of Helsinki.
- <sup>32</sup> Harry Charrington and Vezio Nava, eds, *Alvar Aalto – The Mark of the Hand* (Helsinki: Rakennustieto Publishing, 2012), 105.
- <sup>33</sup> Alvar Aalto and Göran Schildt, *Alvar Aalto in His Own Words* (New York, NY: Rizzoli, 1998), 243-6.
- <sup>34</sup> George Baird, *The Space of Appearance* (Cambridge, Mass: MIT Press, 1995), Chapter 6, “Organicist Yearnings and Their Consequences,” 195-237.

<sup>35</sup> Baird, "Organicist Yearnings...", 199.

<sup>36</sup> Baird, "Organicist Yearnings...", 197.

<sup>37</sup> Frank Lloyd Wright, "In the Cause of Architecture: Second Paper," *Architectural Record*, May (1914).

<sup>38</sup> Rykwert, "Organic and Mechanical," 17

<sup>39</sup> Leonardo Benevolo, *History of Modern Architecture*, trans. by J. Landry, 1st English, 2 vols. (London: Routledge & Kegan Paul PLC, 1971), 454. and Gerd Hatje, *Encyclopaedia of Modern Architecture*, The World of Art Library, (London: Thames and Hudson, 1963), 97.

<sup>40</sup> Rykwert, "Organic and Mechanical," 18.

<sup>41</sup> Peter A. Angeles, *The Harper Collins Dictionary of Philosophy*: Harper Collins Dictionaries. (New York, NY: Harper Perennial, 1992), 180 and 216.

<sup>42</sup> *Alvar Aalto, Vol. 1: 1922-1962*, ed. by Karl Fleig and Alvar Aalto, The Complete Works of Alvar Aalto, 3 vols. (Zurich: Artemis Verlag, Switzerland, 1963), 132-3.

