



# continuity in architecture

searching for a link between abstract  
essence and the complex whole

*by henrik wangsten*

There is a widespread aversion against the use of ornamentation in mainstream contemporary architecture. Instead the ideal strives for a more pure expression of form, an idea that has its roots in the philosophy of modernism. Though radically different in their approaches Christopher Alexander and Dom Hans van der Laan both have a careful view on proportion, making them an interesting juxtaposition in search for wholeness in architecture and the built environment.

As an effect of the industrialization during the 19th century, the rational foundations of natural science and machine production resulted in the highly apollonian ideals around the turn of the last century. The rapid growth in population made possible by medicinal breakthroughs and wide range of scientific advancements shaped the collective mind into a strong belief in linear forward progression, and with the decline of the romantic period, with all its myths and dreams and nostalgia already in the past, the wish to break away from the old comes as no surprise.

Already in pictorial art had there been a wish to move away from the directly representational, the classical way, to focus more on expressing emotions and later on to create paintings that were purely abstract. For architecture, the most influential times came with the functionalist movement in the 1920s originating from the German Bauhaus school (1919–1933).<sup>1</sup> The Bauhaus founder Walter Gropius' intention was to create a *gesamtkunstwerk*,<sup>2</sup> a synthesis of the arts bringing them together in one whole experience, but unlike the romantic efforts made in the 19th century by for example Richard Wagner and John Ruskin and William Morris of the Arts and Crafts movement, the Bauhaus favoured industrialization, modern

<sup>1</sup> Encyclopaedia Britannica, "Bauhaus: German school of design", *Britannica*, accessed 12 November 2023, <https://www.britannica.com/topic/Bauhaus>.

<sup>2</sup> Alyn Griffiths, "Walter Gropius designed school in Dessau to reflect the Bauhaus values", *Dezeen*, 5 November 2013, accessed 8 December 2023, <https://www.dezeen.com/2018/11/05/bauhaus-dessau-school-building-walter-gropius-germany-architecture/>

building materials like steel, glass and reinforced concrete and the expression of the very essence of form. In the aftermath of the two World Wars, many saw an opportunity to lay the foundations of a new world, based on science and rationality – a built environment characterized by space, light and fresh air as opposed to the uncontrolled and unsound urban growth that was seen from the rapid industrialization.<sup>3</sup>

Named functionalism, the propagators of this new modernist style represented by the Bauhaus meant that a building should strive to be as pure as possible, shaped by and reflecting only its function. The maxims *less is more*<sup>4</sup> and *form follows function*<sup>5</sup> became very influential in shaping the architectural thinking of the 20th century and continue to do so even today.

An essential aspect of the modernist style was the complete rejection of any sort of ornamentation or embellishment, as they did not directly support the function of a building and thus were not justified by the new deterministic philosophy. In his essay *Ornamentation and crime*, the Austrian architect Adolf Loos claimed that expression through ornamentation and embellishment was a trait linked to more primitive cultures, drawing examples from indigenous body tattoo, and that that the modern civilized man, on all accounts, should refrain from such barbaric practices.<sup>6</sup>

The British-American architect and design-theorist Christopher Alexander (1936–2022) is known for his advocacy of traditional and vernacular architecture and his pursuit for wholeness and a sense of life in our built environment. According to him, modernist buildings

---

<sup>3</sup> Matthew Carmona, Steve Tiesdell, Tim Heath and Taner Oc, *Public Places – Urban Spaces*, second edition (New York: Routledge, 2010), 245.

<sup>4</sup> Made famous by Ludwig Mies van der Rohe.

<sup>5</sup> Coined by Louis Sullivan.

<sup>6</sup> Canales, Jimena and Andrew Herscher, *Criminal skins: Tattoos and modern architecture in the work of Adolf Loos*, *Architectural History* 48, (Cambridge: Harvard, 2005) 235-256.

are in most cases, largely devoid of life and do not serve humane needs like homeliness and sense of place.

Alexander was a critic of modernist architecture and the notion that the architect possesses knowledge superior to the user, a notion that in our days has justified an elitist act of imposing an enlightened "architects view" of aesthetics on the world without democratic consent. Instead he argued that in order for a building, or any built environment regardless of scale, to reach a state of wholeness it must take all its constituents, including its inhabitants, into consideration – listening to their needs and ways of living in order to create a connection between life of the individual human being to the larger architectural structures. This would then aid the built environment in coming alive and exhibiting the sense of wholeness we are familiar with in the traditional way of building.

Alexander had a phenomenological approach and considered the whole as what defines the parts, rather than the opposite.<sup>7</sup>

Throughout his lifetime, the dutch architect and benedictine monk Dom Hans van der Laan (1904-1991) developed a theory of numerical ratios in architectural proportion, a theory he based on his discovery of the plastic number.<sup>8</sup>

According to van der Laan, man relates to his surroundings by counting and measuring; for equal objects and spaces, we count, and for unequal objects and spaces, we measure by means of comparison.<sup>9</sup> The minimum size difference between two measures, van der Laan found, with them still being clearly distinguishable from one another is 3:4, and the maximum difference between two measures while still relating to each other is 1:7. With these insights he worked out an "order of size" with eight main measures spanning from

<sup>7</sup> David Seamon, *Ways of Understanding Wholeness: Place, Christopher Alexander, and Synergetic Relationality* (Manhattan, KS: Kansas State University, 2018).

<sup>8</sup> The real solution to  $x^3=x+1$ , decimal value 1.32471...

<sup>9</sup> Caroline Voet, "3:4", Dom Hans van der Laan, accessed December 7 2023, <https://dom-hansvanderlaan.nl/theory-practice>.



St. Benedictusberg, Vaals, the Netherlands. Photo by author.

1 to 7, where each step show the relation of 3:4.<sup>10</sup> In a total of nine buildings he made use of his theoretical foundation in his design.

During his studies in Delft in the 1920s, Hans van der Laan and his fellow students, eager to explore the ideas of contemporary architectural ideas not taught in school by their neo-classicist teachers, formed themselves a study circle to learn more about the new architecture advocated by De Stijl and Le Corbusier.<sup>11</sup> For them, this new approach explored and attempted to express the very essence of architecture, the path that van der Laan would pursue throughout his whole life and career.

I have had the opportunity to visit two of van der Laans works: Mariavall in Sweden and St. Benedictusberg in the Netherlands. Both monasteries presented a spacial stillness I have never come close to experiencing before. Most notable was the halls of the churches – their columns, windows and space seemed to vibrate in perfect harmony, like the purest tuned octaves and fifths. Together with the chant of the monks and the frankincense that filled the room with its veil of smoke, my visit to St. Benedictusberg left me with a very profound architectural experience that felt whole.

In a letter to his friend Richard Padovan in 1987, van der Laan writes:

*»rediscovering the whole through its parts, and the analogous relationships that emerge from this, became the leitmotif for all my studies in liturgy, architecture and philosophy.«<sup>12</sup>*

His method is diametrically opposed to that of Alexander, where the whole at all times is defining its parts, and where they in turn

<sup>10</sup> Caroline Voet, "1:7 and a series of 8", Dom Hans van der Laan, accessed 7 December 2023, <https://domhansvanderlaan.nl/theory-practice/theory/the-plastic-number-series-8>.

<sup>11</sup> Brother Lambertus Moonen, "Biography– Dom Hans van der Laan, life and works", *Dom Hans van der Laan*, 2001, accessed 8 December 2023, <https://domhansvanderlaan.nl/biography>.

<sup>12</sup> Caroline Voet, *Dom Hans van der Laan: Tomelilla – architectural theory in practice* (Amsterdam: Architectura & Natura, 2016), 15.

are regarded as whole in themselves and not merely as subordinate parts. Thus, Alexander presents to us, not a hierarchy, but a *holarchy* consisting of autonomous *holons*.<sup>13</sup>

What on the other hand unites the two architects is their belief in and acknowledgement of God: van der Laan with a strict benedictine view where subjugation to rules is a crucial aspect, Alexander showcasing a more Eastern understanding, sometimes directly referencing to the ancient Chinese records like *Daodejing* and *Hua Yen*.<sup>14</sup> For Alexander, *wholeness* and *God* are often treated as synonymous concepts, both an expression of beauty.<sup>15</sup>

In his book *A Pattern Language*,<sup>16</sup> Alexander and his co-authors present 253 so called *patterns*, various hands on approaches in architecture, formulated through research and experience, meant as an aid for both architects and laymen in creating more living built environments. The patterns 240. *Half inch trim* and 249. *Ornament* describe how complex, more finely textured details and ornaments helps the eye to read different parts as a single unit, be it adjacent boards joined by a figuratively cut space in between or the heavily decorated main arch in a gothic cathedral that even seem to create an seamless transition from the impervious stone wall to the opening void. Alexander makes an analogy with the fractal patterns<sup>17</sup> seen in nature and findings in cognitive psychology that "any one step in this hierarchy can be no more than 1:5, 1:7 or 1:10 if we are to perceive it as a natural hierarchy. We cannot understand a hierarchy in which there is a jump in scale of 1:20 or more." A parallel can thus be drawn to the findings of van der Laan, he too arguing for the ratio 1:7 being the limit of the perception of wholeness. Though

<sup>13</sup> From greek holos, 'whole' and -on, 'part'.

<sup>14</sup> Katy Butler, "Nature Unfolding", *Tricycle*, 2008, accessed 8 December 2023, <https://tricycle.org/magazine/christopher-alexander>.

<sup>15</sup> Ibid.

<sup>16</sup> Christopher Alexander, Sara Ishikawa, Murray Silverstein, *A Pattern Language: Towns Buildings Construction* (New York: Oxford University Press, 1977).

<sup>17</sup> Though he did not specifically use this term, coined by Mandelbrot in 1975, just to years prior to the book's release.

being each others opposites in their advocacy of ornamentation, Alexander and van der Laan share a fundamental principle of proportion, continuity and perception of wholeness.

What seems to be one of the driving factors behind the modernist ideology is the conviction that abstraction and simplicity is superior to complexity and ornamentation. In this pursuit for the pure essence of the experience, be it architecture or art, the sense of wholeness seem to get lost on the way, contradicting the initial search for truth and fulfillment. It is as if the act of reduction leads to an isolation, detaching from the continuous spectrum of wholeness, only referencing to itself in a self-absorbed manner.

Take for example Kazimir Malevich's *Red square* from 1915, which together with its official title, *Painterly Realism of a Peasant Woman in Two Dimensions*, attempts to condense the Russian icon down to its essence: the colour red,<sup>18</sup> and in turn regard this as the secular equivalent of the Russian icons.<sup>19</sup>

Alexander and van der Laan on the other hand, oddly united in their shared view on universal, may we even say divine, laws of proportion seem to come closer to the creation of a *gesamtkunstwerk* which is imbued with life and experienced as whole. These proportions are what links the large with the small and unifies the cosmic continuum.

Or as Benoit Mandelbrot famously said:

»Clouds are not spheres, mountains are not cones,  
coastlines are not circles, and bark is not smooth,  
nor does lightning travel in a straight line.«<sup>20</sup>

<sup>18</sup> Grace Gluek, "ART REVIEW; Mother Russia Nurtured Her Modern Rebels, Too", *The New York Times*, 9 May 2003, retrieved 7 December 2023, <https://www.nytimes.com/2003/05/09/arts/art-review-mother-russia-nurtured-her-modern-rebels-too.html>.

<sup>19</sup> Philip Shaw, 'Kasimir Malevich's Black Square', in Nigel Llewellyn and Christine Riding (eds.), *The Art of the Sublime*, Tate Research Publication, January 2013, <https://www.tate.org.uk/art/research-publications/the-sublime/philip-shaw-kasimir-malevichs-black-square-r1141459>, accessed 8 December 2023.

<sup>20</sup> Benoit B. Mandelbrot, *Fractals and the Geometry of Nature*, Vol. 1. (New York: W.H. Freeman, 1982).



## References

Alexander, Christopher; Ishikawa, Sara; Silverstein, Murray. *A Pattern Language: Towns Buildings Construction*, New York: Oxford University Press, 1977.

Brother Lambertus Moonen. "Biography– Dom Hans van der Laan, life and works", *Dom Hans van der Laan*, 2001, accessed 8 December 2023, <https://domhansvanderlaan.nl/biography>.

Butler, Katy. "Nature Unfolding", *Tricycle*, 2008, accessed 8 December 2023, <https://tricycle.org/magazine/christopher-alexander>.

Canales, Jimena and Herscher, Andrew. *Criminal skins: Tattoos and modern architecture in the work of Adolf Loos*, Architectural History 48, Cambridge: Harvard, 2005, 235-256.

Carmona, Matthew; Tiesdell, Steve; Heath, Tim and Oc, Taner. *Public Places – Urban Spaces*, second edition, New York: Routledge, 2010, 245.

Encyclopaedia Britannica. "Bauhaus: German school of design", *Britannica*, accessed 12 November 2023, <https://www.britannica.com/topic/Bauhaus>.

Gluek, Grace. "ART REVIEW; Mother Russia Nurtured Her Modern Rebels, Too", *The New York Times*, 9 May 2003, retrieved 7 December 2023, <https://www.nytimes.com/2003/05/09/arts/art-review-mother-russia-nurtured-her-modern-rebels-too.html>.

Griffiths, Alyn. "Walter Gropius designed school in Dessau to reflect the Bauhaus values", *Dezeen*, 5 November 2013, accessed 8 December 2023, <https://www.dezeen.com/2018/11/05/bauhaus-dessau-school-building-walter-gropius-germany-architecture/>

Mandelbrot, Benoit B.. *Fractals and the Geometry of Nature*, Vol. 1., New York: W.H. Freeman, 1982.

Seamon, David. *Ways of Understanding Wholeness: Place, Christopher Alexander, and Synergetic Relationality*, Manhattan, KS: Kansas State University, 2018.

Shaw, Philip. 'Kasimir Malevich's Black Square', in Nigel Llewellyn and Christine Riding (eds.), *The Art of the Sublime, Tate Research Publication*, January 2013, <https://www.tate.org.uk/art/research-publications/the-sublime/philip-shaw-kasimir-malevichs-black-square-r1141459>, accessed 8 December 2023.

Voet, Caroline. *Dom Hans van der Laan: Tomelilla – architectural theory in practice*, Amsterdam: Architectura & Natura, 2016, 15.

Voet, Caroline. "1:7 and a series of 8", *Dom Hans van der Laan*, accessed 7 December 2023, <https://domhansvanderlaan.nl/theory-practice/theory/the-plastic-number-series-8>.

Voet, Caroline. "3:4", *Dom Hans van der Laan*, accessed December 7 2023, <https://domhansvanderlaan.nl/theory-practice>.