

4. Reconciliation Between the Opposites

Alvar Aalto, *Studio Aalto*, Munkkiniemi,
Helsinki, 1955

The shadows, according to Robert A. Johnson, can be lived out and the wholeness can be created also by arts, therefore by architecture, as well. Architecture as a rule celebrates the beauty of living. Time and again, beauty of living is a primary goal of architecture. But if we follow Johnson's idea, we could say that architecture supports and celebrates life when it captures light together with its beauty and dark heaviness of the world, and with their interaction creates and accentuates world's wholeness. Aalto similarly claimed that:

Whatever our task, large or small, starting from day-to-day ugliness, or the most sensitive emotional element, a town or part of it, a building, a traffic network, or then a painting or sculpture or everyday object, there is one absolutely vital condition that must exist for its creation before it can take on the significance that makes it culture. [. . .] In each and every case, there must be a simultaneous reconciliation of opposites.¹

Aalto's statement was also proved by Johnson saying that "[. . .] personal effectiveness consists in standing at the centre of the seesaw and producing only that which can be counterweighted with its opposite. This is far from the sentimental view of goodness that has been set up as our ideal."² All of nature lives in

1 Ruusuvuori, Aarno, edit., *Alvar Aalto 1898–1976*, Helsinki, The Museum of Finnish Architecture, 1985, p. 39.

2 Johnson, Robert A., *ibid.*, p. 14.

polarities – light and dark, creation and destruction, above and below, male and female. As Johnson puts it, it is not surprising that the same law applies to our psychological structure. The balance between light and darkness is possible and even necessary to achieve, for otherwise the psychological shadows pursue us in the form of a mirror image.³ This is where modern society has its problems, probably since the Enlightenment, when light finally theoretically triumphed over the darkness of the medieval social structure, and all collective darkness, as well as all the darkness of individuals, was pushed into the unconscious realm of the collective and individual shadows of the psyche.

In contrast, all great works of art give us a synthesis of opposites when they manage to balance the beauty and horror of human existence. They remind us again and again, even by surprise or shock, that there is a connection between things and concepts that we have always thought of as opposites. As Johnson noted in the same book, the geometric intersection of two circles, or the *mandorla*, is a metaphor for the intertwining of two opposites. But, when the synthesis of the two opposites is achieved, their intersection is not a space of neutrality or compromise. On the contrary, synthesis of two opposites, we might say, synthesis of two different fields, is an event of interaction and creation.

When light and darkness are no longer in an antagonistic relationship, when a spontaneous reconciliation is achieved between them, light and darkness can touch and create a kind of spatial miracle that appeases us, inspires hope and gives us the hospitality needed to feel at home in such a space.

To achieve the wholeness, Aalto used his own architectural language. His architecture is full of light, warmth, peace, amiability, and hospitality. It is a serene ode to everyday human life and gives hope that life is worth the beauty of being. At the same time, it is obvious that in his architecture, especially built

3 Johnson, Robert A., *ibid.*, p. 15.

in Finland, he was aware that light needs a drop of darkness as a contrast to light, to create an ambient as a wholeness of space. This is also proved by his Helsinki studio. In his architecture, he used only natural materials and worked with their own textures and colours, but additionally, as he said, he used only two colours: white and black, a lot of white and a bit of black, two opposites to be reconciled.

Alvar Aalto's architectural views

Architecture is part of the physical world, and is therefore confronted with a multitude of contradictions or opposites that only human will can capture, reconcile and transform into harmony through art. Even the technical and mechanical elements of architecture must be subject to art, as Aalto noted: "A harmonious result cannot be achieved through calculations, statistics, or probability calculations." and "[...], the main duty of the architect is to humanize the machine age. However, this must be done without scorning form."⁴ After the Second World War, Aalto warned that life without art becomes mechanized, and that every architectural problem is different, so the solution to the problems one faces cannot be stereotyped.⁵

Aalto's early architecture was influenced by the Swedish architect Gunnar Asplund, with his architectural works classified as Nordic Classicism. He was probably also influenced by Le Corbusier and his five points of architectural innovation, which, among other things, advocated large openings in façades, thus allowing sunlight to penetrate the interior of the buildings. Large windows also enabled views to the nature outside. However, Aalto developed his own distinctive architectural form of expression. In fact, he categorically rejected any suggestion that he was influ-

4 Ruusuvuori, Aarno, *ibid.*, p. 156.

5 Ruusuvuori, Aarno, *ibid.*

enced in a conventional sense by other architects, least of all the modernists. He argued⁶ that Le Corbusier's ideas reached him only through a general trend in the architectural discourse of the 1920s. In his later years, he even criticized Modernism. Very early on, in the 1930s, he had already observed modernist architecture with a degree of scorn, claiming that it was concerned with a world of forms based on the analyses of new materials, new building processes and new social conditions, but which simply created a mixture of chrome elements, large glass surfaces and cubist forms of unexpected colours, as if it were trying out all possibilities to become cheerful and obtain a human expression. But instead, it created, according to Aalto, the immediate and direct impression "[. . .] that it lacks the human element."⁷ In his view, modernist architectural revolution had suffered the fate common to all revolutions: "It begins with enthusiasm and ends with some kind of dictatorship. It goes off the rails somewhere."⁸

After the Second World War, in the 1950s, Aalto also voiced sharp criticism of internationalism as something completely uprooted, claiming that the uniformity of internationalist architecture would not create culture in the noblest sense of the word. He was also critical of an economic policy advocating cheap solutions, stating that such an approach inevitably forgets the human, because it rejects a proportional relationship between quality and price. He added that when quality is neglected, the whole economy loses its sense in all areas, and architecture loses its sense, too. In the late 1950s, Aalto predicted a pessimistic future for Western European and international architecture, describing it as: "Parallelepipeds of expanses of glass and artificial materials – the inhuman dandified purism of our big cities – have produced a form of construction from which there is no

6 Ruusuvuori, Aarno, *ibid.* p. 13.

7 Ruusuvuori, Aarno, *ibid.* p. 147.

8 Ruusuvuori, Aarno, *ibid.* p. 147.

return – the road back is closed.”⁹ He also criticized the kind of housing construction that was carried out with a cacophony of motifs that do not resonate with the brilliant beauty of the variables in nature, of which man is a part. He was criticizing situations where man was forgotten. He claimed that architecture was a real thing that could be found only where tiny man with his tragedy or his comedy is at its centre. According to Aalto, an architectural solution must always have a human motive and this motive must become tangible in the construction. “Each solution is a compromise in one sense, which we can make most easily by studying man at his weakest.”¹⁰

His architectural design also based on the classical architecture of ancient Greece and at the same time on the vitality of Italian medieval cities, characterized by a simple human scale, endless variations of the same architectural or urban motifs, the intermingling of public open spaces with private residential ones and, last but not least, the colourful bustle of life with a Mediterranean character.

As Kenneth Frampton said in an interview about Aalto for the Vitra Design Museum,¹¹ the Finnish architect also knew how to create interiors that made people feel safe and how to made them feel the warmth of being at home. For Frampton, the question of how to create a safe and warm home without becoming kitsch was crucial. In his view, Aalto could be a model for contemporary architects who seem to be completely unaware of this issue. At the same time, as Frampton comments the contemporary architecture, there is also the question of how to prevent it from being a cold, intellectual exercise, alienated from any human values. Humane architecture, such as Aalto's, deeply connected to nature and to human beings, is one way to approach this.

9 Ruusuvuori, Aarno, *ibid.* p. 148.

10 Ruusuvuori, Aarno, *ibid.* p. 49.

11 https://www.youtube.com/watch?v=SmBi_T-3ZAA

Aalto followed the sincerest humanistic motives. That is why his architectural designs are rooted in the emotional, mental, spiritual, and physical needs of people. But they are rooted as well in nature.

He believed that architecture with its details was part of biology, and should not be understood any differently from the way we understand biological phenomena. If this is not the case, architecture is not in harmony with the biological system of the whole, and therefore becomes inhuman. He was certain that architecture must always provide an organic link between the building and nature, of which human life is an integral part. In 1935, he had a lecture at the annual meeting of Swedish Crafts Association where he stated that:

If we examine architecture in this way, that is, as part of the struggle between man and nature, we discover its clearest inner character, its systematic, constant variability. [. . .] The resultant 'natural variability of theme' is thus one of the profoundest basic characteristics of architecture, and it is of fundamental importance that we make room for it in our everyday work, too.¹²

After the Second World War, in 1949, he said that: "After all, nature is a symbol of freedom."¹³

Aalto rarely found inspiration for forms directly from nature, maybe only in details, which is, for example, how his famous glass vase was designed. It imitates the undulating shapes of Finnish lake shores and wind-swept water surfaces. His architecture in general was influenced by natural rhythms and textures, not pure forms. He used materials such as wood, white-washed or natural red brick, copper, and glass. All materials have their own innate structure and their own characteristics, which dictate their forms and functions. And while he never broke these laws, he explored

12 Ruusuvuori, Aarno, *ibid.* p. 33.

13 Ruusuvuori, Aarno, *ibid.* p. 34.

the limits of form in the use of particular materials. He felt that the miracle of natural forms and structures lies in their causality, and thus form is not just an empty idea, not an alluring visual image, but becomes a synthesis of reality. When this happens, form comes closer to man and begins to tell a story about the balanced forces in nature, one that it is up to man to hear and listen to.

Aalto's architectural, urban planning and design works demonstrate that his attitude towards nature was inherent in all his creative processes. Very importantly, he was able to preserve the original beauty of the landscapes and urban spaces in which he built his works. His buildings follow the natural logic of a given space and its characteristics, and support the beauty that had been present there even before construction began. His architecture repeatedly gives the impression of being an intrinsic part of a place, and of being completely fused with the spatial logic of a location, be it a landscape or a city quarter.

He did not follow modernist guidelines on how architecture should interact with nature. In Modernism, nature assumed the role of a kind of intermediary between man and his search for rudimentary sources, and also, as Le Corbusier foresaw, the role of a human measure. Anyway, there was no interaction with nature in modernistic approach on general. Nature became a romantic object of observation, admiration, and appeasement. In Aalto's architecture man is a part of nature, which is also an issue of Finnish traditional life. Traditional Finnish architecture is associated with hundreds of lakes and the timber of vast coniferous and birch forests, but also with the great seasonal sinusoids of changing sunlight and darkness. Traditional Finnish architecture contains traditional knowledge of man's connection with nature and survival.

Sensitivity to sunlight

While light is part of any architectural space, in Aalto's works we can recognize his outstanding sensitivity to it, especially to sunlight. Finland is a land where sunlight and darkness achieve a balance twice a year, and where summers, which have almost no night, alternate with winters, which bring bitter cold and darkness, in long wave-like rhythms. The Finnish winter is also a time when the very absence of sunlight makes us aware of its importance. There are countries where natural light is a given every day, but this is not the case in the far north and south of the globe. The long dark winters and bright days of summer create a contrast of sunlight and darkness, deeply rooted in the psyche of every Finn. Each year, from the equinoxes onwards, it is necessary to prepare for either prolonged sunlight or darkness, with the latter often leading to depression. But in the yearly reconciliation of darkness and sunlight, people's lives are nevertheless balanced when they can bask in the sun's rays.

Comparing to the long Nordic sinusoids of sunlight and darkness, much more frequent everyday rhythms and contrasts between light and darkness are caught in Moholy-Nagy's photographs of the *Light-Space-Modulator*. Anyway, the sculpture had an impact on Aalto's works. While he admired the Renaissance way of merging different arts, especially architecture, sculpture and painting, he saw the abstract art forms of the 20th century as providing strong support for modern architecture. The influence between abstract art and architecture was mutual and indirect.¹⁴ In this sense, he was inspired by Moholy-Nagy's the *Light-Space-Modulator*. Aalto's inspiration drew from the Moholy-Nagy's sculpture resulted in architectural solutions for special illumination of interiors through ceiling openings. The skylights, inspired by the sculpture, in some Aalto's buildings are round as are round the penetrations of the two round metal plates in

14 Ruusuvaori, Aarno, *ibid*.

the *Light-Space-Modulator*, and they form a rectangular grid as do the holes in the metal plates of the sculpture. In Aalto's projects, the multi-faceted meaning of Moholy-Nagy's the *Light-Space-Modulator*, as explored earlier, has been given completely original and new layers of meaning. While the antagonism between light and darkness and the possible reconciliation between them in an ever-changing world is the subject of the *Light-Space-Modulator*, the interiors of Aalto's architecture transcend all opposites and transform them into a warm atmosphere of connectedness.

The round beams of natural light that pierce the dark ceilings in some of Aalto's buildings are functional, mostly illuminating rooms with diffused light, although rarely letting direct sunlight into the interior of the building. But they also have a symbolic meaning.

If we recall the analogy with Miró's painting *Maternity* and look at it on the other scale, then we can say that in Moholy-Nagy's photograms, the narrow cylinders of light, projected through two vertical perforated round plates are an act of giving light to a world of moving shadows, and thus symbolize the source of life. This is also true of Aalto's architecture. He consciously placed human life at the centre of his works, intertwining light into it.

In most of the central spaces of his public buildings, Aalto perforated the ceilings with natural light to create even illumination across the entire volume. Compared to, for example, Le Corbusier, who used flat roofs for outdoor living, socializing, sunbathing and recreation, or even for artistic creation, studios and kindergartens, Aalto turned his roofs into a fifth façade, letting natural light from the sky into the central halls. The library in Viipuri (Vyborg in present-day Russia) was the first of his buildings with a roof perforated with skylights.

The library was built between 1933 and 1935, a few years after Moholy-Nagy exhibited the *Light-Space-Modulator* in Paris. The ceiling of the library in Viipuri is Aalto's first architectural interpretation of the dark shadows projected on the wall, punctured in

a rectangular grid by circles of yellow light in the *Light-Space-Modulator*. The effects created by the illuminated vertical perforated circular panels of the *Light-Space-Modulator* are similar to the effects of the ceiling of the Alvar Aalto library. The circular skylights pierce the shadowed ceiling in an equally regular, rectangular grid though in a bigger scale. Together with the ceiling, they create a play of contrasts between the dark ceiling surface and the circles of natural light. But in the library hall this play is transformed into diffuse light, diffused throughout the space so that all visitors to the library and the reading room can enjoy it.

It should be stressed that the even illumination of the hall from the ceiling is of course not accidental and, above all, is not merely a formal transposition of abstract art. Like the wooden corrugated ceiling of the adjacent reception hall, where he used the ceiling's undulating shape to ensure that the acoustics are even throughout the space, so that the speaker can be heard by everyone in the hall, no matter where they are in the room, he ensured that all visitors to the library and the reading room receive even illumination throughout the space.

The ceiling of the library in Viipuri is perforated with white painted concrete cones following the rhythm of a regular orthogonal grid. There are 57 of them, with a maximum diameter of 1.8 m. The depth of the cones is such that the sun, which in Finland shines at an angle of 52° or less, never shines directly into the room, but the sun's rays diffuse around the perimeter of the cones to create indirect lighting of the hall all year round. This achieves two pragmatic objectives. The books are protected from the direct sunlight, while at the same time the readers are not disturbed by the sharp contrasts between the sunrays and shadows that the sunrays would create. Each seat in the reading room is illuminated by diffused natural light entering through several cones at the same time.

Aalto used similar solutions for sunlight penetrating through the roofs of other buildings, including in the reading room of the Technical University of Otaniemi, in the central covered atrium

of the National Pensions Institute in Helsinki, in Rautatalo commercial building in Helsinki, and in the library hall at Mount Angel Abbey in the United States.

For the illumination of his studio in Munkkiniemi, in the western part of Helsinki, however, he used sunlight in a specific way even more creatively.

The studio in Helsinki

The studio was built in 1955 and 1956, and is situated along Tiilimäki Street, on the granite hillside below, where the pink and smoothly rounded granite boulders seem to have sunk into the grassy surface long ago. On this descending slope a building is placed, bridging the incline and the ground floor so that the first floor, the studio part of the building, is almost at street level. The northeast façade is parallel to the street but not touching it, while a white brick fence runs parallel to the pavement. The fence creates an intimate distance between the studio and the street. The studio is seemingly trapped in an L-shape, which has its corner in the north beside the street and is completely open to the south. This makes full use of the site's natural light. Yet, the position of the northeast façade in parallel with the street is the only strict geometric regularity that connects with the urbanism of the surrounding villas. The studio does not interact with the street. The entrance to the building is on the ground floor, which can be reached from the street by a path leading down the granite bank. The building is introverted, facing the remains of the forest that grows over the bank. The south-facing L-shaped ground plan is softened by several irregular angles. The northwest façade, which could have formed a banal right angle with the northeast façade and therefore with the street, forms an angle with it that is a few degrees narrower, so that the façade is not perpendicular to the street, but slightly offset from the view from the street. The main entrance, which is on the ground

floor of this façade and is reached from the street, is thus not immediately obvious. Aalto's studio is an introverted world, with its back turned away even from the perfectly quiet urban villa district of Helsinki, yet opening to the sunlight in the south and the trees that once formed a forest. In the surrounding space, there are also other individual houses set among these trees with all their ascetic grandeur.

Aalto made a peaceful environment in nature and silence for his studio colleagues, his wife, and himself to work in an atmosphere that allows contemplation, where one can immerse oneself in work without disturbance, and at the same time connect with creative collaborators.

The studio floor, which floats above the ground floor and the entrance, is one such peaceful environment. The ground floor consists of a reception office, a kind of filter that keeps the creative floor in peace. It also hosts a cloakroom with toilets and an entrance to the communal dining room with kitchen. The stairs lead from the ground floor to the studio floor at the point where the two wings of the L-shaped floor plan meet in the northern corner. At this junction of the two studio volumes, a meeting room is located. The two wings, with the studio drawing tables, have a different character.

The northwest volume is a trapezoidal prism with a sloped flat roof supported by visible concrete load-bearing beams, large windows to the northwest looking into the nearby treetops, and southwestern transom windows, which allow only view to the sky. These give the space the feel of a production hall, an office where architects once drew plans on tracing paper with pencils and ink, a parallel ruler, triangles, compasses, and other tools. The large transom windows as such do not open the view into the inner atrium between the two volumes, providing conditions for utmost focus to the ones making the project drawings. In this studio space, the drawing tables are arranged in strict order along the two parallel longitudinal walls. Some are separated from each

other by wooden screens and have a more private atmosphere than others. Silence reigns in this studio space, and a rational discipline with an air of strict seriousness in the architectural design, even though the tables are covered with plans and the auxiliary tables and shelves are littered with various samples of bricks and façade ceramics, as well as architectural models.

In contrast to the northwest volume described above, the northeast volume of the studio is softly and organically designed. Even when designing his own studio, he adhered to his principle that every work should be a reconciliation of two opposites. The studio is thus a synthesis of rigorous seriousness and discipline and a soft, gentle and playful tranquillity.

The two volumes form a south-facing atrium. The atrium, opened to the south, there meets the old, mighty trees. This is not an ordinary atrium of an atrium house. Aalto turned the natural granite and grassy slope into an amphitheatre, an open meeting space where the roof is the sky, just as in ancient Greece. It is formed by a series of stairs descending in a loose quarter-circle. The wide stairs which also serve as the seats are made of stone, while the depth of the treads is covered with grass. The amphitheatre faces the white wall, the *skēnē*, which encloses the atrium to the southwest and stands in front of the *orchestra*. The white wall was used for projecting films on a large screen, and also played an important role in illuminating the interior of the soft volume.

In the atrium an echo of ancient Greek architecture appears once more. The upper ledge of the amphitheatre is embraced by the concave façade of the northeast volume. As the flat roof of this volume slopes down from east to west, the concave form of the façade resembles a large, high sail at full wind with its top pinned to the sky. This sail does not catch the wind, however, but sunlight. The sun's rays are diffusely reflected from the whiteness of the façade above the large windows at the bottom of the sail, and when they reach the south and west, they illuminate the interior of the northwest studio hall through the transom windows by re-

flection. Those sun's rays that fall straight through the windows at the bottom of the sail illuminate the interior of the soft northeast part of the studio directly.

This façade, this graceful, taut sail, draws the boundaries of the atrium with a form of an apparent mast in the sharp eastern corner but at the same time with its curve provides atrium's soft demarcation. The elegant white curve of the façade is set on a fluted base. It is like a lyrical motif in contrapuntal harmony with the *basso continuo* represented by the solid northwest atelier volume. The flutes are reminiscent of the flutes of ancient Greek columns and therefore of Greek architecture. They follow and support the long concave line of the façade. The flutes form the base on which the northeast volume of Aalto's studio stands. They soften the structural regularities with an undulating classical form that is rooted in the form of the mighty Doric columns.

The lyrical and elegant concave façade creates an inwardly convex wall of the northeast volume of the studio. The wall descends towards the entrance to the room. It has large windows above the parapet overlooking the descending bank of the amphitheatre and the *skēnē*, a white projection wall from which the rays of the morning sun reflect and illuminate the interior. Three drawing tables have been placed under the windows, which can already receive natural light at sunrise, even though they face south and west. They are illuminated by the sun's rays reflected off the white projection wall of the amphitheatre. And here begins the magic of the illumination.

Another large drawing table was placed not far from the east wall of the studio space. It was placed in the most secluded part of the room, far away from the main entrance. This is where the famous photo was taken in 1957,¹⁵ of Aalto and his second wife Elisse sitting on Artek chairs designed by Aino Aalto, Aalto's first

15 Llukkarinen, Päivi and Pakoma Katarina, edit., *Alvar Aallon Ateljee 1954–55*, Helsinki, Jyväskylä & Helsinki, Kirjapaino Kari Ky, 2018, p. 46.

wife. The high eastern wall is perforated by large windows at the level of the treetops growing on the other side of the wall, a few metres away. The eastern sunlight penetrates the trees and enters the studio space above the drawing table. The green runner plant that grows up this wall towards the windows is seemingly intertwined with the treetops outside.

Behind this large drawing table and behind the backs of the chairs next to it is a separate high wall with one sloping side. This wall is cut into an upright trapezoidal form that largely extends upwards towards the ceiling. A closer look at the wall reveals that the reinforced concrete has been trapped in a formwork of thin slats, so that the corners of the wall are rounded and slightly displaced from a perfect line into an almost imperceptible dynamic shape. This wall has several functions. On one side, it delimits the space of the large table, on the other side hides the back door and exit from the studio. The back exit is reached by five organically shaped wooden steps. The door is small. It leads to an outdoor space under a low pergola. Similarly, the ceiling above the stairs in the vestibule in front of the back door is lowered to create an apparent porch of small dimensions. His effort to capture all the spaces, even the less important ones, in harmonious proportions is evident here, and to this end he sacrifices even the non-functionality of this ceiling of the vestibule. Looking from the studio space, this ceiling appears to be a balcony at the same time. It has a balustrade, but no door or steps leading to it.

The composition of the windows on the east wall is not arbitrary. It consists of a set of windows forming a vertical rectangle close to the convex wall and a string of windows forming a horizontal rectangle close to the trapezoidal wall. The two sets of windows are adjacent to each other and aligned with the top edge of the ceiling. The vertical rectangle becomes a square in perspective from below. It connects the windows at the bottom of the convex wall with the light of the horizontal row of windows. The peak of this spiral and from bottom up to the ceiling growing composition happens with the skylight just off the trapezoidal wall and at the

same time above the large drawing table. The orchestration of the windows has built a harmonious light composition in which light from the sky descends in a spiral to the ground, and vice versa.

The skylight is the highlight of the magical lighting in the northeast studio space. The roof is pierced by a cylindrical opening which, in the passage through the reinforced concrete slab, becomes a triangular recess with one side longer than the other. The triangular prism hollowed out of the ceiling has all the inner edges and all three corners softly rounded. It is both sculptural and functional. It is designed to allow the slanting rays of the sun to penetrate the room and stop at the top of the trapezoidal wall. There, they draw a kind of a sundial. However, this sundial does not cast shadows and does not show hours and minutes. It shows the recurring cycle of the year. Strips of natural light are drawn on the wall, sometimes wider and sometimes narrower, depending on the angle of the sun, which changes during the course of the day and the seasons. The drawing of light formed in summer is thus very different from the drawing of light in winter. It is like the opposite of a photogram. It defines the time when it lets a piece of the sky into the studio space. The time of the sun and the Earth, and the time of the universe thus enter the studio and connect it to the infinity and the eternal rhythm outside. In the sanctuary of the Temple of Queen Hatshepsut something similar has been occurring twice a year, year after year, for millennia. Here in Aalto's studio, it happens every day, continuously, every day differently during the course of a year, and yet the same, year after year, in the eternal rhythm of life.

In his book *The Concept of Time*, Martin Heidegger¹⁶ writes, "[. . .] every clock shows the time of being-with-one-another-in-the-world." Being with each other in the world – in the world of architecture – is at the heart of every architectural practice. There, time stands still in one seemingly infinite moment,

16 Heidegger Martin, *The Concept of Time*, [*Der Begriff der Zeit*, Tübingen, Max Nemeyer Verlag, 1924], Oxford UK, Blackwell, 1992, p. 17.

which is the present. Immersed in architectural planning, the architect's every moment is in the present, even when they are working with their colleagues. The architect works on the basis of former experience and in-depth knowledge, but creation in the present moment is never a repetition of the past. In each present moment, which can last as long as needed, a new thought and therefore a new architectural form can be conceived, solving a current problem and not a past one. Creating in the specific present moment is imbued with an understanding of the future. If we take time in nature as our starting point, then the present already contains the past and the future. This is then *the extended present* Albert Einstein was talking about, isn't it?¹⁷

The rays of light entering through the skylight into Aalto's studio enter the space and draw on the wall the immeasurable time in which the creative work that gave rise to outstanding art was once immersed. Therefore, as Heidegger said, "[. . .] time itself is meaningless, it is transient and it is *principium individuationis*, a principle of individuation."¹⁸ What matters is the visible result of an event in space and in an individual moment. There was light merging with space. In the interaction between light and space, nature, and people's need, an artwork was created through a sensitive and thoughtful artist.

Aalto's studio is a multidimensional spatial work of art, a masterpiece, and at the same time a state-of-the-art technical facility for passively catching natural light. It is the latter that governed the architectural forms, which the architect poetically integrated into a harmonious whole. Each architectural form was dictated by several relations and interactions at the same time. No form is a mere formal transposition of an imagination or a form transferred from elsewhere. Sunlight, nature, and man – and natural light and nature for man in a peaceful and

17 Rovelli, Carlo, *ibid.*, p. 52 – 60; on *extended present*.

18 Heidegger Martin, *ibid.*, p. 21.

creative environment – were Aalto's obvious aims in designing his architectural work.

As was already explained, in addition to natural materials, he used only two colours in his interiors: black and white. The lightness of the light is grounded by shards of black. Large, bright, white rooms are furnished with wooden chairs with visible natural wood, upholstered in black leather.

Like Aalto's architecture, his interiors also reconcile opposites – including light and darkness. In the Helsinki studio, it is a fragment of defined black that transforms fields of light, which could seem otherwise metaphysical, into a real space. The amount of darkness in Aalto's architectural space is very small compared to the whiteness and light of the same space. It is as if it were in relative inverse proportion to the amount of *dark matter* and light in the universe.

Architecture is relational

Isn't the finding of quantum physics about inexistence of light until granular structure of a quantum field interacts, fascinating? If everything in the universe is relational, if the reality is relational, then architecture must be relational, too. If a system manifests itself only when interacting with another system, then architecture obviously depends on such interactions. As light, also architecture seems to be inexistant until it is in the relation to all related interactions. There are so many systems to consider. But if we follow Hesiod's *Theogony*, then it becomes obvious that there is a hierarchy in the creation of the world: the first entities created in Chaos were darkness, light and space. Time is only one of 12 Titans and was born much later. The modern physics was, as it seems, also occupied with light and space(-time) in the first place. Art usually follows contemporary scientific findings. It used to be so from ancient times to Renaissance and after till nowadays. There are also exceptions, that is great artists, who are even beyond the

science because they understand the world with their creative insight and intuition even better, though they cannot prove it scientifically. I think Aalto was one of them.

But in general, it seems that nowadays the contemporary architecture does not follow the contemporary science. It seems it is stuck in the “dandified purism” as Aalto stated. Anyway, architecture can consider the basic entities and the interactions between each other, in the first place. That is to say, architecture can manifest itself in relation and interaction with sunlight – darkness and space – time in the first place and then parallel to these with many other systems where nature, human society, energy, and matter most probably prevail. What if architecture can manifest itself only in relation and interaction with sunlight and space in the first place and only parallel to that by interaction with nature and society, etc.? What if it cannot manifest itself if it doesn't interact with sunlight and space in the first place, and then synchronized by the interaction with nature and society at the same time? If not so, does it then become a lost opportunity floating in the space and being alienated from human society and nature, from urban tissue and landscape just because it did not interact with space and sunlight?

There are so many answers to what is relational in a creation of architecture. We have observed four possibilities *in relation to light*. Though the first artwork is not an architecture, sculptures use very similar language to communicate the relations between volumes and voids as architecture does. Moholy-Nagy's sculpture took individual human life interacting with endless web of human relationships. In the cross section between both the dynamic rhythms of the *Light-Space-Modulator* were created in relation to light. Libeskind's the *Holocaust Tower* challenges the weakness of sunlight in relation to heavy darkness in space. In this relation darkness manifests itself, while in the temple of Queen Hatshepsut sunlight overcomes the darkness and wins. It is Aalto who shows us the reconciliation of the opposites. And even more, his architecture is a resultant of many relations but

the interaction with sunlight and space is in the first place and dedicated to people. His studio is a resultant of relations between darkness and sunlight, between sunlight and space, between sunlight and volumes, between volumes and voids interacting with sunlight, between nature and man, between man and sunlight, between man and space, and many others. This is why his architecture is deeply grounded into space and firmly connected to nature and people, and this is why it is never subordinated to the simplified Euclidian space. Because of all the interacting relations it is multi-layered and multidimensional, but despite of that it manages to reconcile all the opposites and be a harmonious whole.