Goran Schildt writes about: “Aalto’s unique contribution to modernism embraced context and the natural environment. Drawing on sources as diverse as Finnish landscape, the Bauhaus, the Classicism, Aalto forged an organic design vocabulary that juxtaposed concrete and wood, copper and brick, volume and form in an original synthesis.” (1, p.1). In addition to Schildt’s article, multiple sources on theory of architecture illuminate Aalto’s work as contribution to regionalism, locality, heritage and freedom from a particular style or fashion. The approach to analyse the main techniques deployed by Aalto in the design of Vuoksenniska Church based on the common notion of the characteristics of his designs will become an underlining logic of the part ‘technique’.

In the article ‘The Sixth Dimention of Architecture’ Esa Laaksonen defines a number of dimensions that describe Finnish architecture as a whole and Aalto’s work in particular:

1. Connection with Finnish heritage of dwelling and habitation.
2. Horizontal line = a person lying down
3. Angle formed by a vertical and horizontal line = the level of standing person
4. Limited or Unlimited Space where a person lies down or stands = human proportion
5. Total experience = interaction of all human senses, the environmental experience
6. Time = light that illuminates the space; the motion in the space; aging person; aging materials; aging space; timelessness of a building vs mortality of a person
7. History of mankind = the presence of an architectural typology; continuity in a building heritage.
8. Soul = cultural familiarity, symbiosis of function and human experience (2, p. 142-147)

The approach to analyze techniques applied by Aalto in a design process of the Church is based on simple understanding of a process that starts off some logical basis and over time results in physical or transcendental culmination. Whether the sequence is logic-process-form, idea-technique-object, thinking-making-analysing or why?-how?-what?, it focuses on defining the unknown member of the equation (=the technique) through the analysis of known diagrammatic data constituting ‘form’ and ‘body’ chapters.
Another approach to diagramming the technique relates to specification of sequential steps that were identified earlier, e.g. 'logic-process-result'. The abstract sequence is specified through the overlaying with an additional layer of the logic of global interrelationships. This logic considers every instance of a design process as a part of a whole. The 'part and whole' appears to be essential entities in Aalto's design of the Vuoksenniska that results in both multiple responsibilities of the architect and significant complexity of achieved results.

The diagram explains the correlation between the abstracted steps of the design process of the church and captured still frames illustrating that process. On one hand, the still frames tend to define initial abstracted formula while on the other hand, they reference back to 'form' and 'body' diagrams that become the driving knowledge for the exploration of the technique of the architectural practice.
Aalto often notes how conscious and unconscious processes are incorporated in his design process, which is illustrated in one of the ‘body’ diagrams. Incorporation of dual (i.e. conscious/unconscious) approach stands out in the design of Vuoksenniska. The marriage of conscious and unconscious yielded in Aalto’s ability to use scientific studies along emotional determinants in the design, which eventually led to the freedom from a particular style or fashion. It allowed him to draw on references, typologies, design processes that seem necessary because the design rather than stereotype dictated that. As a result, the church is a “unique sculptural monument, an architecture for which there is no parallel” (Schildt, p 118).

Although architecture positions itself in between the art and the science, essential similarities can be traced through the comparison of the strictly scientific theory with the theory of architecture. Particularly, phenomenon of scientific revolution can overlap with one of the design approaches in architecture; even though, at a miniature scope and impact. As Kuhn states, scientific revolution is the main engine of scientific knowledge that ensures change of prevailing paradigm and direction of a scientific vector towards the truth. Scientific revolution means that the steadily developed cumulative knowledge fails in dealing with a new phenomenon of an unknown scientific order. As a result, new scientific paradigm replaces the former, embraces the novelty, and establishes new system of tools and knowledge. In terms of the architectural theory, Vuoksenniska church stands out on the background of typical designs for the mid-twentieth century. Seemingly, architectural typology in conjunction with the prevailing architectural style reigns over the majority of the designs at the particular time periods; similar to a dominant scientific paradigm, architectural typology and style dictates the design preferences, unless the leap towards the ‘true design approach’ takes place and proves the existing suggested design tools and techniques wrong. Aalto dared to overcome existing architectural principles and techniques for the sake of better design solution of the Vuoksenniska. The church does not belong to any of the mainstream architectural styles of the period (functionalism, classisism, historisism, etc.), but leans towards so called picturesque tradition. Schildt notices individuality and intimacy achieved in Vuoksenniska by means of free form and unconventional manner in design. As a result the church is a “unique sculptural monument, an architecture for which there is no parallel” (Schildt, p 118).

Technique | Freedom of the Design

Technique | Pillars of the Design of Vuoksenniska

Technique | References to Historical Heritage and Architectural Typologies

Technique | Relation to context | Mapping and Diagramming the Trees | Nesting within Derived Outline
Complexity of architectural meaning is achieved in Vuoksenniska through combination of poetics and tectonics. Essentially, the overlay of scientifically inspired exploration with emotionally rich architectural approach has made the design of the church appears familiar for a human perception, yet performs successfully from a functional point of view.

Vuoksenniska is considered an example of modernist architecture; however, it functions as ‘a machine’ only from a single perspective. Dynamic partitions is one of the technological novelties applied in the church that primarily responds to the programmatic requirements and, therefore, the occupancy of the building. It again reminds of combined technological and transcendental qualities of the church.

McLuhan notes that application of advanced technology in any area of social life leads to unification. It is apparent that Aalto tempted to avoid this circumstance while aiming for a unique respond to human needs and contextual qualities. The architect applied largely what McLuhan calls ‘cold media’; in contrast, ‘hot media’ was utilized accurately and thoughtfully. Cold media in Vuoksenniska narrows down to the choice of materials: concrete and wood one of the most culturally familiar materials to Finnish public. Perhaps, the intention of application of common local materials pursued the idea, which is also mentioned by McLuhan, that cold media is low in resolution and relies substantially on public participation. Hot media, such as dynamic partitions, is utilized very specifically because its ‘high resolution’ does not allow involvement of individuals, however, solves the spatial differentiation of the main volume of the building.

Contemporary architecture has been known for revealing the problematics of its mathematical-technological foundation. As Perez-Gomez wrote, it found itself demanding the real value. It is swallowed by functionality, efficiency and economy; moreover, it has been alienated from the public. Since the 1800s the relationship between syntactic (structural) and semantic (transcendental) approaches in the search of meaning has been reconciled: transcendental perspective has been abandoned, which caused alienation of science from human reality, symbolic thought and ambiguity of human behaviors. Aalto brings the significance and true meaning into his design through the understanding of human needs and sacred semantics of the church as the primary concerns. He relied on both: science of acoustics and natural light in addition to transcendental meaning of form/space and complexity of occupancy. As a result, scientific knowledge of sound and light distribution serves towards enhancing sacred characteristics of the religious building and accommodates church’s social functions of a community and parish centre. Religious symbolism, sacred sense of space, ambiguity of functions and highly technical performance of the building coexist side by side in Vuoksenniska.
Vuoksenniska as a Lutheran church has an organ, pulpit and altar. The altar is traditionally placed in the centre as the most sacred entity. The pulpit is located to the side from the altar, which defines the sanctuary’s assymetrical triangle to insure the audibility of a sermon at a pulpit. Long walls that diagonally face the pulpit serve for the correct sound reflection towards the audience. Walls and windows bend inwards for acoustic reasons as well. The logic of the plan layout in the sanctuary differs, but does not confront traditional religious priorities. In addition, common theological symbolism found itself in the transcendental meanings of Vuoksenniska. The number three became a symbol that was carried throughout the entire design process. It corresponds to the amount of halls, division of the top of the bell tower into tripartite, number of crosses and their multiplied shadows at the altar and so on. The number three is one of the most significant and commonly accepted religious symbols, which derived from the trio of the Father, the Son and the Holy Spirit.
Vuoksenniska functions primarily as a church while providing potential for social activities of the town it is located in. Sound proofed moving partition between the three consecutive halls ensures the possibility for multifunctioning. Depending on a day of the week the church may expand one type of activity over the other, i.e. accommodate the diverse needs of the surrounding community. Functional flexibility, therefore, illuminate the relationship of the church to its existential context and transcendental meaning.
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