

Materials and Methods:

The Affect of Expression on the Twentieth Century Church

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“In fabricating equipment ---e.g. an axe --- stone is used and used up. It disappears into usefulness. The material is all the better and more suitable the less it resists perishing in the equipmental being of equipment. By contrast the temple-work, in setting up a world, does not cause the material to disappear, but rather causes it to come forth for the very first time and to come into the Open of the work’s world. The rock comes to bear and rest and so first becomes rock; metals come to glitter and shimmer, colors to glow, tones to sing, the word to speak. All this comes forth as the work sets itself back into the massiveness and heaviness of stone, into the firmness and pliancy of wood, into the hardness and luster of metal, into the lighting and darkening of color, into the clang of tone and into the naming power of the word.”¹

¹ Frampton, Kenneth; Studies in tectonic culture: the poetics of construction in nineteenth and twentieth century architecture, pg 23

It comes as no surprise that the typology of the church has changed with the inclusion of the modern. The modern became an ideology that was quickly taken up by many Architects who were influenced by this new spirit of the times. With that ideology came certain ramifications for the mood of the space that has been created for worship. The space is inherently tied to the displacement of the subject in time.² Therefore, this project is subjective for the atmosphere of a space is perceived differently for each one who enters that space based on their personal opinions and experiences. However, it is the aim of this project to state that the experiment of the latter half of the twentieth century by applying the modern materials and methods to this typology of the church has not reached its aim. “It gives one pause to reflect anew on just how inflated with ideas and concepts the modern period has been. People thought it much smarter to proclaim urbanism, mechanization, universal space, or revolution than to associate with old fashioned issues of materials and details.”³ Materials are an apparatus necessary for doing or making something as in architecture. New materials and new methods of building associated with these progressive leaps directly affect the space and the people who occupy that space. Corbusier himself was quoted as saying:

““My house is practical. I thank you, as I might thank railway engineers or the telephone service. You have not touched my heart. But suppose that walls rise toward heaven in such a way that I am moved. I perceive your intentions. Your mood has been gentle, brutal, charming or noble. The stones you have erected tell me so. You fix me to the place and my eyes regard it. They behold something which expresses a thought. A thought which reveals itself without word or sound,

² Frampton, Kenneth; Studies in tectonic culture: the poetics of construction in nineteenth and twentieth century architecture, pg 1

³ Kohyama, Hisao; Is God or the Devil in the Details? pg 4

but solely by means of shapes which stand in a certain relationship to one another. These shapes are such that they are clearly revealed in light. The relationships between them have not necessarily any reference to what is practical or descriptive. They are a mathematical creation of your mind. They are the language of Architecture. By the use of inert materials and starting from conditions more or less utilitarian, you have established certain relationships which have aroused my emotions. This is Architecture.”⁴

The typology of the church, being influenced by the mechanization of the modern spirit, experienced a decline in the quality of the mood and atmosphere of the space through the use of materials but can be redirected through those same materials by drawing on the rich history of knowledge of past and traditional materials and tectonics of the church typology.

It is to the work and influence of such architects as Le Corbusier that one must turn to for the point at which the typology of the modern church was changed through the inclusion of new materials. The name of Corbusier is permanently attached to the architecture of the twentieth century and to the thirty years of the International Style. Corbusier practiced with the vision of his machine for living which was the sole instrument of triumph embodied in the *Esprit Nouveau* and constituted the essential agent for the potential realization of that spirit.⁵ With the inclusion of industry and the machine into the work of Le Corbusier, the architecture began to be analogous to machine tool production, “All this plastic machinery is realized in marble with the rigor that we have

⁴ Frampton, Kenneth; *Le Corbusier and l’Esprit Nouveau*, pg 13

⁵ Frampton, Kenneth; *L’Autre Corbusier: la forme primitive et la ville lineaire*, pg 2

learnt to apply in the machine. The impression is of naked polished steel.”⁶ This rigor was then applied to his projects by using concrete. A machine for living was transcribed into a machine for worship with the completion of works such as Notre Dame du Haut du Ronchamp, to be discussed later. The production of architecture, likened to the production of cars, ocean liners and airplanes was applied universally to all typologies. Corbusier called the people of his time, “shallow spirits of limited vision cried out: ‘The world is being wrecked, all is lost.’”⁷ However, Edward Maufe, when presenting to his contemporaries said that we must look to the past and to the present because the great works of church architecture were “modern” in their day but only out of a desire to build the best or most beautiful church ever.⁸ While the utilitarian chapel of those times is merely the decorated shed, the modern church is simply the shed.⁹ The architects before Maufe wanted to deny the existence of the machine but the spirit of the times swung the other way and the current was to deny the spirit and to bow down to the machine.¹⁰

Corbusier’s work of Notre Dame du Haut du Ronchamp is an impressive work of architecture, one of the best of the twentieth century, but it is not necessarily a good example of the typology of a church.¹¹ For this church, misses its primary aim of being a house for worship, and is instead a machine for worship. The starkness of the breton brut used to compose the walls and floor and the missing articulation of the structure combine to make this church’s mood and atmosphere not conducive to worship. Unless, one can read the building in its diagram form and pull the architectural, and two theological

⁶ Frampton, Kenneth; *Le Corbusier and l’Esprit Nouveau*, pg 20

⁷ Corbusier; *Architecture, the Expression of the Materials and Methods of Our Times*, pg 1

⁸ Maufe, Edward; *Modern Church Architecture*, pg 294

⁹ Frampton, Kenneth; *Studies in tectonic culture: the poetics of construction in nineteenth and twentieth century architecture*, pg 36

¹⁰ Maufe, Edward; *Modern Church Architecture*, pg 294

¹¹ Schloeder, Steven J.; *Architecture in Communion*, pg 9

histories from it, one's understanding of the chapel is limited. The wall and perimeter of the chapel works in tandem to produce both enclosure and break in the unity of that enclosure and also produces the creation and salvation stories. The chapel is also organized around a void which lends credence to its ineffability.¹² The obstacle to this is that people do not generally read buildings because of the abstraction of the modern to first principles of function, economics and the utilitarian. "Although buildings can still communicate to those who learn the language, our society today has become architectonically illiterate."¹³ The affect is lost and one is unable to read the code for the building which produces the machine.

Architects followed the influence of Le Corbusier during the latter half of the twentieth century and applied the machine to the church typology. Philip Johnson, with his Crystal Cathedral is one such example. The design premise of the church was to simulate the open sky for a building that was to house thousands. The pastor began his career by preaching in a drive-in movie theater. The church is an extension of those first beginnings. However, the network of glass and steel overhead does more to obscure than to reveal the open sky above it. The crystal cathedral is a fitting name, the network of steel and the tectonic of the building lends itself more to a hard, crystalline structure than to a church. Disparaging comments on the design for being fake and striving for the machine in a city of fakes have been addressed to this building. "And then, rearing up in all its translucent pomposity, is the Crystal Cathedral of Garden Grove, the Philip Johnson-designed white-steel and silver-glass extravaganza of televisual prayer, with its spiky tower soaring to 124 feet, to compete with Disneyland's Matterhorn for peak

¹² Graf, Doug; Diagrams, pg 71

¹³ Schloeder, Steven J.; Architecture in Communion, pg 47

visibility on the low flung Orange County skyline.”¹⁴ Other architects have followed Corbusier’s premise with materials and methods and by designing with them as part of the initial design process. Such an architect is Peter Zumthor, “in each of my works, each material has laid down its own laws... Projects are born out of an idea, and in my case this idea is always accompanied by a material. I can't imagine a method of design in which the architect first decides on the form, and then on the materials.”¹⁵ While this methodology has produced exceptional works of architecture, the Herz Jesu Kirche in Munich, Germany, with its utilitarian functional enclosed box of glass and steel is a hybrid between the traditional wood church on the inside and the mechanized steel and glass perimeter. The light filters in through the layers of materials transforming from transparent to translucent to white light. This church captures the spirit of what Corbusier was aiming for, but the hybridization is accomplished in a disparate fashion. Materials of different characters brought together to produce a specific affect, this is what Corbusier was aiming for. The machine for worship, in the doors in the front, ushering the people in and revealing the inner workings of the shell inside, still exists in the church.

While there have been many eras of great work in the typology of the Christian Church such as the Romanesque, the Gothic, the Renaissance and the Baroque, this project will focus on the era of the Gothic for its structural motif and the rich symbolism inherent in the detailing of those structural pieces and the material quality of the opposites of stone and light. “I can think of several examples of a detail having this power, but the one that stands out in my mind is the rib in Gothic architecture . . . awesome technology of the Gothic cathedral in an almost explosive burst of

¹⁴ Soja, Edward J; Inside Exopolis: Scenes from Orange County, pg 94

¹⁵ Zumthor, Peter; Swiss Pavilion at Expo 2000 in Hanover

development. Because of the rib, the Gothic cathedral's gravity-defying structure, the light filling its mysterious space, and the boiling forms of its sculpture could all come to form. Because of this one detail, the image of a heavenly Jerusalem suggested by the Book of Revelation of St John and the idea of light occurring in the philosophy of Thomas Aquinas could be embodied in architecture."¹⁶ The structural motif of the Gothic arch and the rib enabled for the material nature of the building to come completely forward and within the bounds of the mystery of their experiments, to produce a space alive with majesty and awe. The multiplication of those details as a continuing motif also gives the Gothic part of its power as oppose to the magnification and scalelessness of the details of the classical.¹⁷ The religious architecture, personifying the ideal of the church, performs in its proper function by offering a foretaste of what is to come through the senses. "When out of my delight in the beauty of the house of God --- the loveliness of the many-colored gems has called me away from all external cares, and worthy meditation has induced me to reflect, transferring what is material to that which is immaterial, on the diversity of the sacred virtues: then it seems to me that I see myself dwelling as it were in some strange region of the universe which neither exists entirely in the slime of the earth nor entirely in the purity of Heaven, and that by the grace of God I can be transported from this inferior to that higher world in an anagogical manner."¹⁸ The tectonic of those materials in the expression of them as structure gives the Gothic life through their dematerialization into stone tracery and from there into light itself. The use of that material in its construction toward light, expressing its own inherent color through

¹⁶ Kohyama; *Is God or the Devil*, pg 5

¹⁷ Frampton, Kenneth; *Studies in tectonic culture: the poetics of construction in nineteenth and twentieth century architecture*, pg 39

¹⁸ Kidson, Peter; *Panofsky, Suger, and St Denis*, pg 7

that light, but must include construction. The stone has form and as a material is defined by its shape so that when placed one upon another, the form is in the precision of the joint.¹⁹ According to Vittorio Gregotti, “detailing should never be regarded as an insignificant technical means by which the work happens to be realized. The full tectonic potential of any building stems from its capacity to articulate both the poetic and the cognitive aspects of its substance.”²⁰

For the typology of the church, the experimental foray into the modern mechanization has many negative ramifications. The project though, would like to suggest a new experiment, that of utilizing the same materials and methods offered by industry and science, but to take up a new path from 1950 other than the present path. The use of details of the materials and tectonic structure would be paramount to the project and the repetition of that motif throughout the project, instead of the magnification of the details. This project does not seek to proclaim one style of building over another; it is up to the architect to reconcile the tension for preserving the typology and making it relevant to contemporary society. Even though modern iconoclasm sought that “man’s soul is pathetically brought face to face with itself”²¹ in the infinite, majesty and silence through pervading precision, exactness and accuracy of the machine, the modern whitewashed barns that prevail across the country cannot be justified. The freedom provided by the new materials and ways of building to design is dangerous if not used wisely. In the typology of the church, experimentation is not enough, proved knowledge must also be utilized. For this project, prevailing against the spirit of the times

¹⁹ Frampton, Kenneth; Studies in tectonic culture: the poetics of construction in nineteenth and twentieth century architecture, pg 358

²⁰ Frampton, Kenneth; Studies in tectonic culture, pg 26

²¹ Le Corbusier; Architecture: The Expression, pg 126

is not the only aim, but revolution against the immediate past soon becomes dated and will not last if designed from this motive.²² This project seeks to apply an architecture of transcendence to the typology of the church through materials and details of tectonics.

²² Maufe, Edward; *Modern Church Architecture*, pg 294

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Abstract:

The typology of the church, being influenced by the mechanization of the modern spirit, experienced a decline in the quality of the mood and atmosphere of the space through the use of materials but can be redirected through those same materials by drawing on the rich history of knowledge of past and traditional materials and tectonics of the church typology. The architects of the latter twentieth century conducted an experiment on the typology of the church. It was to the work and influence of Le Corbusier that one turns to for the point at which the typology was modified. The production of architecture was likened to the production of cars, ocean liners and airplanes. The utilization of the materials and methods that industry produced was applied to the church, creating a machine for worship. Architects followed in Corbusier's path; architects such as Phillip Johnson and Peter Zumthor. They produced churches which are machines for worship instead of houses for worship.

One must then turn to history; in the ages of the Romanesque, the Gothic, the Baroque and the Classical, for the spirit that will lead a new experiment on the church typology. In this project, it was the detail of the gothic rib and how the structure really is the gothic church. It is in this repetition of the structure, instead of its magnification into scalelessness that creates the majestic and awe-inspiring space. It is not the intent of this project to proclaim one style over another. It is the intent of this project to utilize the modern materials and methods that industry and technology has made available to architects and from there, take up a new direction with them. A new ideology, one based on history and tradition will be formed with the design of this project.