- Classicism of Mies -

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Preface

This paper investigates our longing to return to our basic, spiritual needs as human beings. We live in a time where I believe many people live a materialistic and superficial life to have a sense of satisfaction for their existence. I believe this satisfaction should come from learning, developing, and getting conscious of our lives. From this sort of critique towards the society, I became interested in "sacred geometry", which represents the Universe through shapes, ratios, proportions etc…

This paper will explain how my fascination (which is a very big topic be a feasible one year project) got narrowed down into a specific topic, which will undergo a research to answer several questions in order to gather a set of design tools to start the design phase of the project.
Having said that, this paper starts with a short introduction from my fascination into a project.

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"We used to look up at the sky and wonder at our place in the stars. Now we just look down and worry about our place in the dirt."
– Matthew McConaughey, Interstellar.

1. Introduction; my vision and goal

Humans have been always looking for spirituality, seeking for answers about the meaning of life. In ancient civilizations this journey was also reflected in architecture for example in Egypt and China. Constructions that represented the universe using sacred geometry as ornamentation, orientation or shape of the constructions. I believe that past couple of centuries this urge of humans to connect with the cosmos has unfortunately faded drastically in comparison with the ancient worlds. Now it just seems as if we do not even think about the purpose of life let alone constructing buildings that represents our existence and guidance in the cosmos. It seems as if we are strictly bonded to the surface of this planet that we forget that we are a part of the cosmos. It seems as if people see the surface of the planet as reality and forget what is out there. Furthermore, from my observations of daily life and the media, I believe that this is caused by living too superficial and materialistic lives. Every single day media throws information at us about superficial goals such as money, status, looks, competitiveness, greediness etc. These are just a few examples that eventually create all the differences between the people and the negativity on this planet. We must look further then these goals that we have in order to grasp the idea of life and our place in the universe. Once we are able to this, we will have taken a huge leap to becoming more conscious about ourselves and in the development of our spirits.

There is a suitable quote of Buddha regarding getting conscious by exploring the universe. "Open your eyes and you will see the beauty of the Universe. Open your mind and you will understand the Universe. Open your heart and the Universe is yours." This quote sums up the ideal way to really liberate ourselves from materialistic possession and superficiality and actually get to know who we really are. The first sentence of the quote says "the beauty of the Universe". What is that beauty? Beauty is something most people claim to be able to recognize but none can define to everyone's satisfaction.

Many philosophers and artists have tried to put beauty into words. For example Socrates mentioned to beauty as "If measure and symmetry are absent from any composition in any degree, ruin awaits both ingredients and the composition... Measure and symmetry are beauty and virtue the world over." Another world famous philosopher, Plato, Socrates' student, describes beauty as "The beautiful consists in utility and the power to produce some good. The good, of course, is always beautiful, and the beautiful never lacks proportion." Notice how these philosophers relate beauty to measure, symmetry and proportion. That is why I believe that the next generation philosophers after Plato summed up their teachers thinking well. The quote "Order, symmetry and precision." of Aristotle, student of Plato, gives great insight about the term beauty while at the same time summing up his teachers ideas. Even though the given quotes of these three philosophers can be questioned, due to passing their knowledge to each other and therefore sharing the same ideology, the message is clear. True beauty lies within harmony and order.

Coming back to the quote of Buddha and his first sentence of the quote "beauty of the Universe", we can draw the conclusion that the fundamentals of the Universe lie in symmetry, harmony and order. If this is the case, which I

believe it is, then mathematical ratios and geometric proportions must come closest to understand the structure of all that exists.
Understanding this tells us also about the constructions made by ancient civilizations, where mathematical ratios and proportions were applied and have visible relations with the solar system and celestial bodies. The mathematical ratios and geometric proportions used on these constructions are called *Sacred Geometry.*

Sacred geometry is a way to explain the Universe through geometric and mathematical principles. This information is derived in the ancient civilizations and got passed on by ages. One of the civilizations that made this information understandable for us were the ancient Greeks. Sacred geometry is visible in their architecture, design and most importantly their way of thinking.
As a civilization the ancient Greeks were very focused on understanding the "truth (beauty)" in the Universe. They were looking for ways to explain how the Universe works and this resulted greatly in their culture. From their philosophy to mythology, every aspect of the Greeks was in the notion of understanding and expressing the Universe.

Looking now at architecture, this urge to express in such a way has faded away. I believe this is closely related to the materialistic society, that people don't have the need anymore to express the "beauty" (fascination for) of the Universe.

Therefore, this project is about reintroducing those humanistic values of the ancient civilizations to connect people with the universe, make them realize the bigger picture of life. However, this topic is too big to comprehend without looking specifically into an aspect of it. In that regard I am going to focus on Greek classical architecture, because what we know now as sacred geometry is closely linked to their philosophy about nature, about beauty, and about the truth. This journey of finding the truth is a known concept in the field of art and architecture. From those old days to modern architects, people saw the power of expressing the truth in their designs. One of our recent historical figures in architecture that was also on this journey is Mies van der Rohe. His journey to find the truth started when he worked for Peter Behrens in the 1920's. This journey led him eventually to his own interpretation of classical architecture that has been globally recognized and cherished. For this reason I chose to analyze Mies' work to see to how he translated classical architecture in his time. With this comparisment I was able to translate classical architecture in our time with more ease.

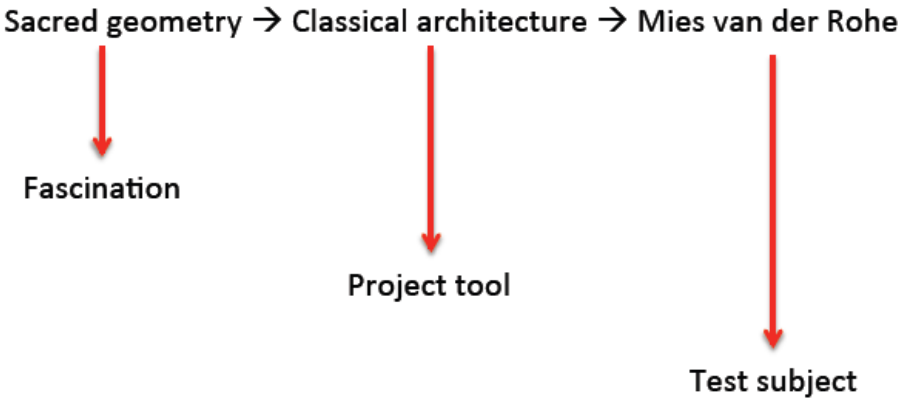


Fig. 1. Narrowing down main fascination.
Source: own image.

To find my own answers and methods of applying classicism in my design, I have to answer a couple of (main) questions. First one being the research question:

- What can we learn from Mies van der Rohe regarding his ideas on classicism to apply it in contemporary architecture?

The second question however, is about answering the question for my personal fascination, which made me interested in this topic in the first place. Answering this question will make clear why we should use classism in our temporary architecture.

- What effect can classical canon have to change this materialistic and superficial society?

In order to answer these two questions, several sub questions should be answered first. See the list below:

- From what parts does Greek classical architecture exist of? What are their implications?
- What is the philosophy behind it?
- How did Mies van der Rohe translate classical architecture?
- What part(s) of classical architecture did he translate to his time?
- How did Mies develop his ideas regarding classicism?

Having summed these questions up, let us now start the research by looking into the philosophy of the ancient Greeks and what similarities it has with Mies van der Rohe.

2. Philosophy; ancient Greeks, Aquinas and Mies van der Rohe

The first step to start this research is to understand the philosophy behind the ancient Greeks about life. Obviously this an immense task just because the amount of work there is about that topic. Having said that, I will focus more on aspects that which I think are comprehendible when related to architecture.

Looking in Timaeus, one of the highly regarded dialogues of Plato, it mentions the world being distinguished between the eternal world and the physical world. The physical world is in motion of changes and perishes; therefore it is subjective and vulnerable for unreasoned sensation. The eternal world however, never changes; therefore it is apprehended by reason.
Let us now take a leap to Mies' philosophy and trace back to this eternal- and physical world and see the relation between the two worlds.

I believe that one of the most important things Mies said about his own work and philosophy on architecture is: *"I want to examine my thoughts in action…I want to do something in order to be able to think."* (Padovan, 2001, p. 150)
This is a two-way relationship statement between the mind and things. In other words, the architect has to do something physical to understand his thoughts, the eternal world. The idea for this is that the intellect forms the things it creates and these things inform the intellect in return. This relation, which forms the knowledge, is also contained in Aquinas's famous definition of truth as "Truth is the significance of fact".
Several questions now rises; what are facts? Where do we need to look for it in order to understand the truth? And according to the Greeks, if the world exists of eternal and physical ones, in which do we need to seek for?
For Plato, according to Padovan (Padovan, 2001), reality lay in the immutable spiritual world of rational ideas or "Forms", such as the self-evident truths of geometry. Since great Greek philosophers such as Plato and Aristotle believed in reincarnation, the immortality of the Soul, which the Greeks referred to as metempsychosis, the soul knows already all truth. Therefore the discovery of truth is simply the recollection of this dimly remembered knowledge. This would be possible through reasoning. Hence the truth is to be sought in the mind and not in material things.
However, just like Aristotle, Aquinas does not fully agree with Plato's doctrine of the truth in the mind, and identifies forms with their individual material manifestations.

According to Padovan, this has two important consequences, which he believes that are relevant to an understanding of Mies' architecture. First it follows that things are the source from which the intellect acquires ideas: *"Our intellect draws knowledge from natural things, and is measured by them".*
However, this leads to the second consequence, the problem with this is as to how the particular impressions received by the senses are converted into thinkable concepts. To quote Aquinas on the relation between our intellect and matter:

"Our intellect cannot have direct and primary knowledge of individual material objects. This is because the principle of individuation of material objects is individual matter; and our intellect understands by abstracting ideas from such matter. Now what is abstracted from individual matter is the universal. Hence our

intellect knows directly the universal only". (Achilles, Harrington, & Myhrum, 1986, p. 18)

Aquinas implies with this quote that our mind has a speciality, the "agent intellect" as he refers, which is able to convert sense-data into thinkable objects. It abstracts universal essences from their material conditions. However, unlike Plato's Forms, these essences do not exist outside the mind. Nor are they identical with the individual form of the thing in itself. According to Padovan this is the reason why Aquinas defines truth as a "correspondence" and not as either a property of the thing or of the intellect. Aquinas states:

" For true knowledge consists in the correspondence of thing and intellect; not the identity of one and the same thing to itself, but a conformity between different things. Hence the intellect first arrives at truth when it acquires something proper to it alone-the idea of the thing- which corresponds to the thing, but which the thing outside the mind does not have." (Padovan, 1999, p. 200)

Sadly this quote does not state whether the intellect draws knowledge from natural things, or from man made things. However, what is interesting to Aquinas is the analogy between the intellect of the artist and the divine intelligence. Aquinas goes on:

" Our intellect draws knowledge from natural things, and is measured by them: but they are measured in turn by the divine intellect, which contains all created things in the same way as works of art are contained in the mind of the artist. Therefore the divine intellect measures, but is not measured; natural things both measure and are measured; and our intellect is measured, but does not measure natural things, only man made one." (Padovan, 1999, p. 201)

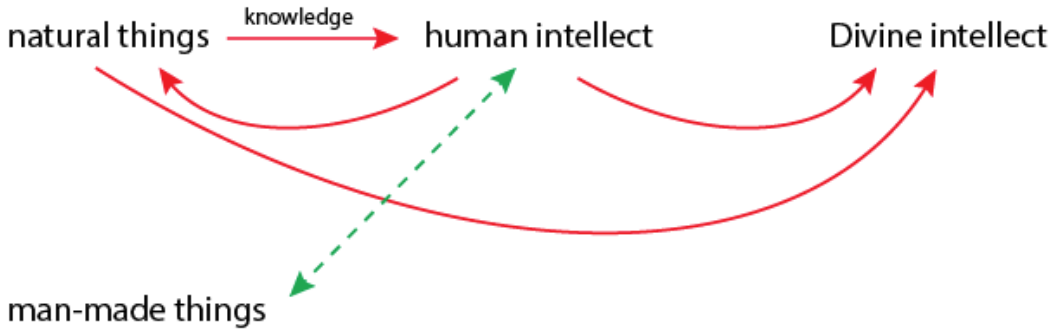


Fig. 2. According to Aquinas, philosophical connection of our intellect with other factors.
Source: own image.

This quote shows Aquinas' worldview about the products of the intellect returning and perfecting it, just as his view of the creation, which is intended to return to God. "The emanation of creatures from God would be imperfect unless they returned to Him in equal measure." Aquinas using once again the analogy of the artist says: "the emanation of works of art from the human intellect would be imperfect unless they returned to that intellect in equal measure."
This takes us finally to Mies and makes it possible for us to better understand why he stated to examine his thoughts in action and to think, he has to make something.

Furthermore, Aquinas states that natural things, which are originated from an infinite intelligence, cannot be fully apprehended by our limited intellect. However, the man made things, originating from limited intellect can be fully understood because it embodies the rational and universal forms of human thought.
Padovan notes that it is this intelligibility of the man made things that can act as intermediaries between us and the natural world, bringing to it an added radiance. He uses Greek temples as an example where they add value to the landscape in which it is set. Padovan continuous by saying as if nature demanded the clear sharp facets of our rational creation for its own completion.
Now looking at Mies' another quote from this point of view, we can see why Mies' works were focused on getting nature inside. He probably saw his own works as observation points to analyse nature and life, and contemplate upon it by getting information from them. This next quote of Mies about the Farnsworth House makes it much more clear:

"We must strive to bring nature, buildings and men together in a higher unity. When you see nature through the glass walls of the Farnsworth house, it takes on a deeper significance than when you stand outside. Thus nature becomes more expressive- it becomes part of a greater whole." (Padovan, 2001, p. 155)

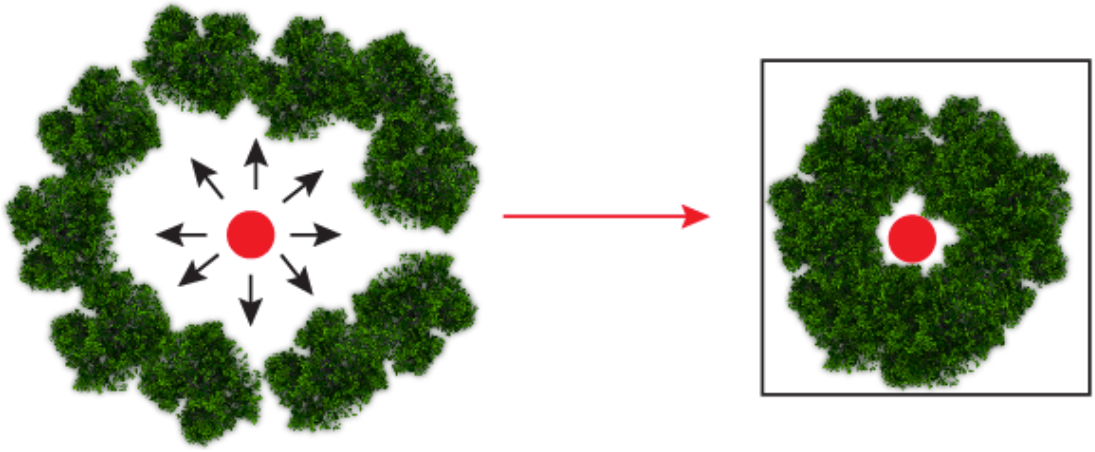


Fig. 3. By making nature the most important aspect of the interior, it becomes more expressive.
Source: own image.

In conclusion of chapter one, we saw that the ancient Greeks tried to find out the "truth". For this, they had to question the eternal (spiritual) world. However, they needed the physical world to understand the eternal, therefore their architecture had to become one with nature. This is also the case with Mies van der Rohe.

So far we have seen the Greek view about the truth of reality, and Mies' relation to it. In chapter two and three we will look into classical architecture and Mies van der Rohe's designs.

3. Classical architecture

At this point, we have seen the philosophical relation between the ancient Greeks and Mies van der Rohe. Before we go right into the architecture part of the research, where I will compare these two with one another, let us first take a look what classicism actually means, from which we will go into what classical architecture consists of.

3.1. Classicism

First, let us take a look to what classicism is all about. Padovan that classicism, in its broadest sense, is simply the tendency of architecture to draw close to its essential type. This classical type, to which all architecture must conform to a greater or lesser degree if it is to be architecture, arises from its inherent constructional nature and representational function. The characteristics of this type are: the polarity of inside and outside; the concentricity of the inside space and of the solid elements that mark it out around the body of its occupant; materiality; and the mutual ordering and proportioning of the parts, and of the parts to the whole. (Padovan, 2001, p. 148)

According to Tzonis (Tzonis & Lefaivre, 1986, pp. 275-276) if the characteristics mentioned above are applied properly, then good classical architectural compositions become ingenious essays in stone, intelligently argued dialectics and hermeneutics. In these Greek temples, or even work of e.g. Palladio, partitioning, ornament, and rhythm form a conceptual structure for implementing a major part of the program of classical architecture, as Tzonis puts it: to create representations of reality, to explore through the formal relations of the building the architecture of reality, to identify in reality independence, equivalence, subalternation, contrariety, symmetry, transitivity, correlation, identity, whole, continuity, to study how space works, how we can work in space, how our mind works, and how we can work together as a society.

The building reflects the existing reality that through foregrounding reorganizes on a higher cognitive level. It provides a new frame in which to understand reality, in which to "cleanse" away an absolute one. The means are formal, the effect is cognitive, the purpose moral and social.

Now the question rises about how does classical architecture reflect reality? In chapter one philosophy, we saw that the Greeks tried to understand eternal reality through physical reality. Mies had his own interpretation about it, just like Aquinas did. To understand reality Mies was focused on nature, creating a natural world in a man-made world. This is in short one way to approach this question, through nature from inside like Mies did. However, integrating a construction into nature can also be made in a different way, more specifically the way of ancient Greeks.

According to Vincent Scully (Scully, 1962), during the antiquity, Greece was punctuated by hard, white forms, touched with bright colours, which stood out in geometric contrast to the shapes of the earth. Temples housed the image of a god, immortal and therefore separate from men, and were themselves an image, in the landscape, of his qualities. Some modern critics have catalogued these temples as non-architectural, because they offered no comforting interior space. Others have seen them as creating a purely hermetic order and thus as overly restricted, not the temples, because their forms were also simple, abstract, repetitive, and apparently canonical. All Greek sacred architecture explores and praises the character of a god or a group of gods in a specific place. That place is itself holy and, before the temple was built upon it, embodied the whole of the deity as a recognized natural force. With the coming of the temple, housing its image within it and itself developed as a sculptural embodiment of the God's presence and character, the meaning becomes double, both of the deity as in nature and the god as imagined by man. Therefor, the formal elements of any

Greek sanctuary are first, the specifically sacred landscape in which it is set and, second, the buildings that are placed within it.
The landscape and the temples together form the architectural whole, were intended by the Greeks to do so, and must therefore be seen in relation to each other. Edith Hamilton echoed Choisy and put the problem in simplest visual terms as she wrote:

"to the Greek architect the setting of his temple was all-important. He planned it seeing it in clear outline against sea or sky, determining its size by its situation on plain or hilltop or the wide plateau of an acropolis. He didn't think of it in and for itself, as just the building he was making, he conceived of it in relation to the hills and the seas and the arch of the sky. So the Greek temple, conceived as a part of its setting, was simplified, the simplest of all the great buildings of the world." (Scully, 1962, p. 2)

Fig. 4. Doric temple in Segesta, Sicily, Italy.
The temple is integrated, becoming one with nature.
Source: http://articles.latimes.com

From this quote we understand the importance of the setting for the Greeks. The temples became a picturesque element to make people awe of its beauty. To go a little bit more into experiencing such site, I would like to use a story of Vincent Scully, where he mentions an experience of Herman Melville, an American writer in the 19th century, who visited the Acropolis one day in 1857. Scully mentions that as Melville stood on top of Acropolis, *"he was able to understand all at once the miracle of reconciliation between men and nature, which rose before his eyes. A white presence stood before him, high on its platform of rock above the long view to the sea. The cones and horns of the mountains lay behind it, fixed by its solemn permanence but uncompromised by it, and around it the whole horizon swung in a single arc. The world became simple, articulate, and known, with the ultimate harmony of the temple at its centre; an organism as complex in its parts but as serenely whole in its action as any creature of the earth, but also totally abstract, as geometric as Melville's ships, a work of man. This was "form" as Melville knew it, singleness of life, and as he scanned the horizon of land and water with his sailor's eye he recognized form' active complement, "the site". Somehow he was able to perceive the reciprocal relationship between the two, he knew it was "reverence",*

and he divined that something deep and essential to human life upon the earth was being celebrated there.
The double issues of "form" and "site" of the human identification of the self and of reverence for that which is outside the self, of acting alone but at the same time being at home in the world. " (Scully, 1962, p. 7)

Having looked into what classical architecture means and stands for, and even into an experience, which I must add have been romantically and poetically described by Hamilton and Scully, the next step is to look at what makes classical architecture.

3.2. Main parts of classical architecture

This chapter will focus on the main parts of classical architecture depicted by Tzonis (Tzonis & Lefaivre, 1986) as three levels of formal devices; (1) **taxis**, which divides architectural works into parts, (2) **genera**, the individual elements that populate the parts as divided by taxis, and (3) **symmetry**, the relations between individual elements.

I have to mention that the following information is related to the idea of conveying the classical canon into physical objects. For more detailed information about each part, see the attachment.

3.2.1. Taxis

First we will look into the taxis, which are orderly arrangement of parts.
Taxis has two sublevels (schemata); (1) the grid and (2) the tripartition.
The grid in turn consists of two types; (1) rectangular grid and (2) polar grid schemes, which several variations of them are depicted in the attachment.

The tripartition is to accentuate the difference between the internal and external sections of a work, dividing a building into three parts; two border parts and a closed one. This can be seen as a beginning, middle, and an end. Aristotle's quote refers to this as a whole, which we can perceive three aspects as fundamental basis of achieving harmony; *"A whole is that which has a beginning, middle and end."* (Schneider, 1995, p. 38)
It is noteworthy that the lengths of each part however are not important. What matters are the clear distinction of each section, the characteristic formal role it plays, and the hierarchical step of the work.
In this tripartition the beginning and the end can be equivalent and symmetrical. This last aspect makes sure that one can return to the end part of a building and make it read as the beginning and vice versa. I believe that this expresses also life, being born and to die, which leaves the life we lead itself as a mid section in the tripartition. Since Greek philosophers believed in reincarnation, which in ancient Greece was transmigration of the soul and referred to as "metempsychosis", I believe the middle part was the most important part to express in their architecture. This is visible in their schemes where the mid part is expressed as C, the only unique part of the scheme between the symmetrical parts.

Now lets take a look at these schemes. There are several versions, which according to Tzonis are sub-schemes to one main scheme, the mother scheme. Tzonis refers to a square plan from Cesariano, where the scheme is expressing the Aristotelian tripartite in the most elementary way.

a	b	a
b	c	b
a	b	a

Fig. 5. The mother scheme of classical architecture.
Source: own image

From this mother scheme, several sub-schemes emerged. It is noteworthy that these schemes are not constraining rules; they are mere tools to start up the design with their generative potentials, while keeping the tripartition in tact all the time. Having said that, there are several sub-schemes that Tzonis has set up, which can be found in the attachment, together with several analyses of these schemes on Greek temples, work of Palladio and work of Mies van der Rohe.

3.2.2. Genera

Second part of classical architecture is the genera, which are the physical elements. These always appear in well-determined sets governed by particular fixed relations. This is what is known as the classical orders. There are five orders; (1) the Doric order (which is considered as masculine), (2) the Ionic order (which is considered as feminine), (3) the Corinthian order (which is considered as the decorative one), (4) the Tuscan order (which is considered solidest and least ornate) and (5) the Composite order (elements from Ionic and Corinthian). Each one of these orders have their own story to it, however since it is irrelevant for my research I will not go into the detail of it.

Tzonis refers to genera as an absolute with inviolable limits and boundaries imposed by the divinely ordained. According to Vitruvius (Morgan, 1914), the classical orders are linked to cults of particular deities. The Doric order is linked to Minerva, Mars and Hercules. The Ionic order to Diana and Baccus. The Corinthian order to Venus, Flora, Prosperine, and the Nymphs. Because of these relations, the genera become a means of classification. The world gets partitioned as it were through anthropomorphic categories. These differences in turn get expressed through symbolic spatial architectural relations. Hence, for many scholars the proportions of the temple resemble those of a well-formed human body.

According to Vitruvius, sections of the column, (1) the capital, (2) the shaft and (3) the base, are derived from the main divisions of the human body, (1) the head, (2) the body and (3) the feet.

The differences between the genera can be anything from ranking systems to expressing a particular gender. In terms of ranking systems, the Tuscan and the Composite are considered the extreme hierarchical ones, where as the Doric, Ionic and Corinthian are in-between.

When looking at the differences from e.g. gender point of view, the thick columns of the Doric order are derived from the male body, where as the Ionic follows the feminine slenderness. These differences in each order come along with their own set of rules. A quote of Vitruvius (Morgan, 1914, p. 103) gives insight on this manner: "*whatever thickness they made of the base of the shaft, they raised along with the capital to six times as much in height".* According to Tzonis this was supposed to express the strength and the grace of the virile body. He claims that through this device a building is designed within constraints of proportion and configuration, safe from contradiction and from turning into an amorphous compilation. (Tzonis & Lefaivre, 1986, p. 43)

The genera, like mentioned before, are the classical orders with each their own configurations. These configurations can be found in the attachment.

3.2.3. Symmetry

The last part of classical architecture is symmetry. This part guides designers to place the elements inside the divisions, which are created by taxis and the chosen genera. Symmetry is used to bring the taxis and genera together, in order to create harmony. It is the connecting aspect in creating architecture.
Tzonis distinguishes two relations of symmetry; (1) rhythm and (2) figures.

Tzonis regards **rhythm** as one of the most fundamental formal means of composition in architecture. By using rhythm, which is about contrast and reiteration, metric patterns emerge.
These are stressed units joined to unstressed ones, which then are repeated regularly on the defined taxis. Metric patterns can be found in any arrangement that manipulates architectural elements through the polarity of stressed and unstressed, for example in pier walls, doors and niches for intervals. We can even consider sculptures as stressed units, where the background of the sky works intervals. Tzonis (Tzonis & Lefaivre, 1986, p. 118) states that we can even generalize further by stating that stressed versus unstressed differentiation in the metric patterning of architecture can be generated by several kinds of polar formal oppositions. A few examples of these are solid versus void, flat versus curved, polished versus rough, colour x versus colour y.
There are also elements grouped in metric patterns that are repeated within the same work. This we can call **architectural motives**. More information about these can be found in the attachment.

Another part of symmetry is **figures**. These are (Tzonis & Lefaivre, 1986, p. 152) relations among elements or among their compositional units, such as parts, members, and details. Figures are typified patterns for associating units in a manner that contributes to the completeness and wholeness of the work and they defy systematic classification. Figures make the form of a building more complex and rich but with such an increase of overlapping relations that they also open it up to contradiction.
Tzonis identifies two types of figures (1) figures that make architectural elements interrelate in a way that directly and **overtly** contributes to the wholeness and completeness of the composition; parallelism, contrast, alignment, and analogy. And (2) figures that do so through a **subtle** approach, by means of insinuation; aposiopesis, abruption, epistrophe, oxymoron, “turning the corner”, “feminine” cadenza, and ellipse.

3.3. Conclusion

Classical architecture is about integrating with nature, becoming one with it. It is this beauty that awes people and makes us contemplate. It uses several compositional rules to capture this feeling, better known as the classical orders. All of these five orders, with each their own meaning and elements, have to adhere to the three main parts of classical architecture: (1) taxis, (2) genera and (3) symmetry. The harmonious result of Greek temples relies on the right composition between these three parts that makes classical architecture.

4. Mies van der Rohe

"Less is more"
Mies van der Rohe

4.1. Goal of Mies' designs

In chapter one we saw how Mies' philosophy relates to the ancient Greeks. In chapter three we related the reason and meaning of classicism to their philosophy. In this chapter, before we go into technical aspects of Mies' designs, we will look at the reasons for Mies' use of classicism.

I would like to start this chapter with a quote of Mies that in my opinion adds a sociologic value to his philosophy I explained in chapter two. This quote is a reaction of Mies after the Barcelona Pavilion was criticized for its luxurious elegance. In 1930, Mies warned that technical progress would lead to a loss of meaning in architecture:

"Let us not overestimate the question of mechanization, standardization and rationalization. And let us accept the changed economic and social conditions as fact. All these things go their destined way, blind to values. The decisive thing is which of these given facts we choose to emphasize. This is where spiritual problems begin. The important question to ask is not "what?" but "how?". That we produce goods and by what means we manufacture them means nothing ***spiritually*** *speaking. Whether we build high or low, with steel and glass, tells us nothing about the value of building. Whether in town planning we aim at centralization or decentralization is a practical question, not one of value.*

Yet it is the question of value that is decisive. We have to establish new values, to demonstrate ultimate aims, in order to acquire standards or criteria. For the meaning and right of every age, including our own, consists solely in giving the ***spirit*** *the opportunity to exist."* (Achilles, et al., 1986, p. 43)

In this quote Mies points out the importance of enriching ones soul, and that in fact real value should be something that speaks to our souls and has a humanistic value. This spiritual focus that he puts in his work is also visible in Mies' notebook of 1927/1928: *"The house is a commodity. May one ask for what? May one ask what the reference is? Evidently only for bodily existence. So, that all goes smoothly. And yet man has needs of the soul, which cannot be satisfied with this…"*(Achilles, et al., 1986, p. 31). This shows again Mies' focus on wanting his architecture to transcend the physical and relating to spiritual. If we look at Mies' work from that perspective, then classicism is applied as a second layer of meaning. That whatever era we live in, it is essential not to forget our true values.

Then, what it the first layer of meaning in Mies' work? The first layer is obviously the structural clarity that was blossoming in Mies' era. Architects found new ways of applying steel and glass, and define space. This affected Mies' architectural characteristics, which we will touch upon in the next chapter.

4.2. Design strength and characteristics

Prior to the Industrial Revolution, the principle building material had been masonry, a fact that resulted in space being defined by structure. With the arrival of the iron and steel ages it became possible, for the first time, to separate the structural elements from the space-defining elements. Like mentioned before, this became Mies' first layer of meaning in his designs. Obviously, his way of designing made it possible for people to perceive this first layer with ease. To communicate this layer, Mies had his own characteristics.

According to Carter (Carter, 1999, pp. 8-9)there are four main characteristics of Mies' work:
First one is the ***constructional clarity and athletic repose***. These have appeared through the removal of all unnecessary weight. "*We took all the unnecessary weight out of the buildings to make them look as light as possible"* as Mies puts it. "*It is often thought that heaviness is synonymous with strength. In my opinion, it is just the opposite".*
Second, materials that are used are ***industrially produced*** and the manner in which they are used acknowledges the specific nature of each.
Third one is that the structural systems employed are in accordance with the requirements of the respective functions, and the components of these systems are ***revealed both internally and externally***.
Last characteristic is that the enclosing skins and interior space dividers are ***separately defined*** from the stressed members, leaving no doubt as to what is structural and what is not.

Besides the characteristics, Carter (Carter, 1999) divides Mies' work in three categories, with each category own way of constructing.
These three building types are; (1) high-rise skeleton frame, (2) low-rise skeleton frame and (3) single-storey clear-span building.

First, let us take a look at the **high-rise skeleton frame buildings.** In this category the predominant characteristic is vertical extension, where the attention goes to aspects like site, function, structure, elevatoring and services. To be able to reach a balanced plan, elevatoring and services are of crucial importance. For this reason, Mies' multi-storey buildings have fixed centres in the plans consisting of transportation and service shafts, and all other functions for which daylight is not essential. Spaces around the centres are free spaces of open structural frames, which makes particular individual arrangement possible. As for the ground floors, where e.g. entrance lobby or lounge were situated, these floors are high, usually more or less 4,8 meters. The façade on this level is also of glass, but unlike the upper floors the glass is set back from the perimeter to make an inviting gesture towards the entrance.

Carter mentions **three options of skin solutions** that Mies has used for his high-rise buildings. I will go briefly through Carter's findings:
First one is the skin becoming an infill between the columns and floor beams. This solution is visible in Promontory Apartments in Chicago. The building consists of reinforced concrete construction, where the skin infill consists of fixed panels with operable windows.

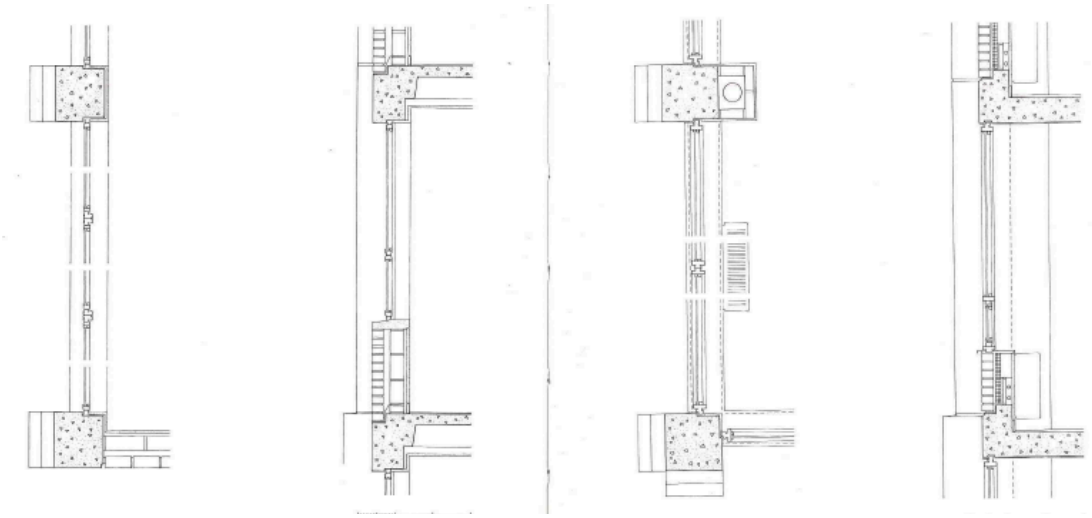


Fig. 6. Mies' first skin solution as depicted in the Promontory Apartments (left) and Highfield House Apartments (right)
Source: (Carter, 1999, p. 46)

Second one is the glass being set between the structural frame with its exterior face contiguous with the steel cover plates of the columns and edge beams. In this solution, Mies introduces projecting of steel mullions at the module points. This made it possible for the structural frame and the glass infill to be fused, and giving an impression of a single architectural statement. This solution can be seen at the Lake Shore Drive apartments.

Fig. 7. Mies' second skin solution depicted in the Lake Shore Drive Apartments.
Source: (Carter, 1999, p. 46)

Third solution is that of skin located in front of the structure and, except for supporting connections, is independent of it. When Mies was asked if he had a preference for this solution or the 860 type of skin solution, he answered that both of them were possible, however he considered the previous solution as more technological solution. Which I believe it means that this (third) skin solution is in a way more artistic solution that expresses the structural clarity much better than the first two solutions. This third skin solution can be see at the Seagram Building where the skin consists of bronze mullions, column covers, spandrel panels, glazing frames and louvres; and bronze tinted plate glass.

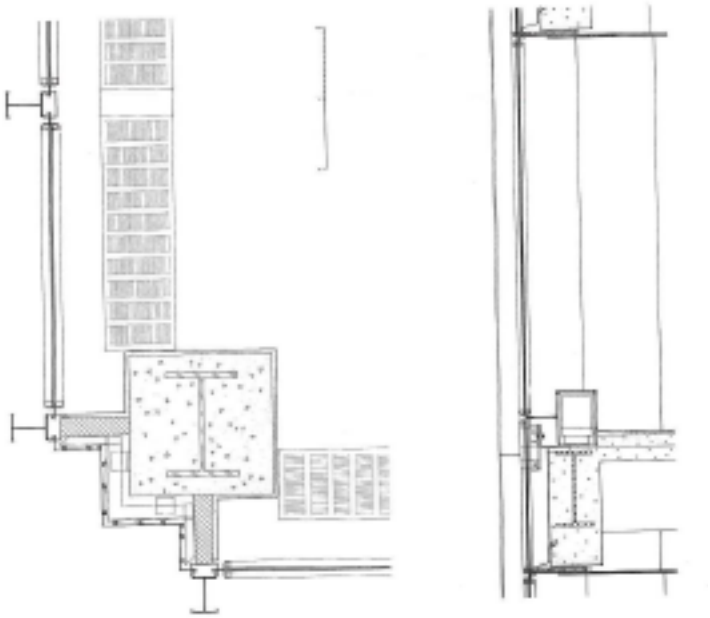


Fig. 8. Mies' third skin solution depicted in the Seagram Building.
Source: (Carter, 1999, p. 48)

Now let us take a look at Mies' **low-rise skeleton frame buildings.** There is in this category much more freedom in determining the structural bay. According to Carter, greater spans might be economically feasible and functionally desirable. This may result in producing a more varied spatial character and looser plan assembly than is possible for the high-rise category.
In this category, accommodations are planned at the periphery, because of their need of natural light. Unlike the high-rise buildings shaft centres, the low-rise structures are opened up to form circulation spaces around functions for which natural light is not essential.
The interior spaces with enclosed characters are opened up by garden courts that provide contact with the outside, intended to bring nature into the building. Overall, low-rise skeleton frame building's spatial possibilities are according to Carter one of the most added value to this kind of work.

The last category that Carter sums up is Mies' **clear span buildings.** The most important characteristic of this category is the creation of a single space where several related activities can be brought together. This creates possibilities to transform the construction into a structural shell where the functional subdivisions can constantly be changed, thus become flexible in use.

However, these can kind of constructions do need fixed spaces where subsidiary functions can be placed, such a toilets and storage etc. In Mies' buildings, these are located in either freestanding cores on the main floor, or on a separate level directly below.
Perhaps the most important aspect of Mies' clear span buildings is the visibility of his structural clarity philosophy. In these buildings the primary structure, which is the enclosing shell, is clearly expressed and separated from the secondary structure in space defining elements. According to Carter, in these buildings one experiences the relationship between the plurality of the particular spaces and the singularity of the total space- with all the rich variations of scale and space that this engenders.

According to Carter (Carter, 1999, p. 81), Mies' clear span buildings may be grouped into three categories of differing structural type and progressively increasing magnitude:
(1) Those buildings having a rectangular roof plane supported between perimeter columns in the manner of the Farnsworth House.
(2) Those buildings having a rectangular roof plane attached to the underside of exposed trusses or bents, as is the case with Crown Hall.
(3) Those buildings having square roof structure composed of an orthogonal grid of girders or trusses poised on perimeter supports just like in the New National Gallery in Berlin.

Now let us end this chapter with looking into how Mies used materials in his buildings. Carter mentions that an understanding of the nature of materials was a characteristic of Mies' way of work. Whether these materials were natural, or man-made, they were always appropriately selected and carefully detailed. In public areas, such as plaza spaces and entrance lobbies, he insisted upon using only those materials, which would hold up well under conditions of hard abuse. He used fine marbles, granites and woods whenever the budget would allow; when it did not, his use of brick and other man—made materials would show an identical care in detailing. Often the only difference that may be detected between an apartment or office building which had a high budget from one which had medium or low budget, is to be found in the degree of finesses of the materials used. The plans were always optimum solutions for their respective function; they were never compromised on behalf of expensive materials.

Another aspect to mention about materiality is Mies' way of bringing different materials together. This takes place in a small space where the materials meet each other, which is known as a reveal. This is an open joint, which permits different materials to meet on the same plane and yet retain a discrete articulation from one another. A reveal allows a neutral space where inaccuracies of the materials may be conveniently accommodated. Generally, this is solved by a cover strip or moulding.
In Mies' buildings the reveal is an element of the architectural vocabulary. It occurs between floor and wall, between wall and ceiling, and also between panels of wood; and at any point where a construction or expansion joint is located. It also occurs whenever two different materials or parts meet: between doorframes and the adjacent walls surfaces; between wall surfaces and recessed items such as illuminated elevator signs, ash trays and convenience outlets.

4.3. Conclusion

Mies' work contains two layers of meaning. The first one relating to Mies' time with its problems, issues and progresses. This layer represented the blossoming of technology, applying steel and glass. Not to forget the most important aspect of new ways of defining space, which resulted in Mies' main characteristic; structural clarity.
The second layer of meaning is the classicism. This layer makes us aware that besides all this progress, we should never forget our real values.

These two layers eventually got translated in Mies' work and characterised as; reduction of the concept to its simplest, most essential statement; clear, regular structure, and universal, omni-functional space. (Achilles, et al., 1986, p. 21)

I would like to end this chapter by summarizing the essence of Mies' work in one sentence, which is also used by Carter (Carter, 1999):
constructional necessity was translated into structural art.

5. Case Studies

In this chapter we will take a look at four case studies that I have done on Mies' work. These include (1) The Barcelona Pavilion, (2) The Farnsworth House, (3) The 860-880 Lake Shore Drive Apartments, and (4) The New National Gallery. The goal of these studies was to see if I could relate Mies' work in any way to classical architecture, especially to the taxis, which is covered in chapter two. What you will find in these studies are general information about the construction with additional analytical drawings that will show to some degree the effect of classicism on Mies' designs.

Note: Not every analysis is mentioned in this part of the paper. There are also several other try-outs, schemes on Greek temples and Palladio's work that you can find in the attachment.

5.1. Barcelona Pavilion

"One evening as I was working late on the building. I made a sketch of a freestanding wall and I got a shock. I knew it was a new principle." (Tegethoff, 1985, p. 77) These were the words Mies used about the onyx wall in the Barcelona Pavilion. This construction made huge name for the concept of structural clarity; separation between structural and non-structural elements. I believe this is what he mentions as a new principle. A free and open plan, a completely new kind of space.
The strength of this space is in the fluid and contiguous character, where there are no closed parts. Instead, each area became a natural art of adjacent areas. This was achieved by using the walls as space defining elements, which were freely placed in a framework of an open structural skeleton. The walls are only a few centimetres away situated from the structural columns to emphasize the structural clarity.

Fig. 9. Barcelona Pavilion.
Source: www.themodernist.co.uk

For this reason, Barcelona Pavilion became a symbol of the decade, 1919-1929. Carter (Carter, 1999) believes this structural clarity comes from interplay of richness of the used materials that form a unity. In the words used by Carter; the marble and onyx walls, the travertine-faced podium, the tinted glass and the chromium-plated column covers with the attendant transparency and reflectivity producing a fantasy of complex ambiguity, has frequently blinded critics to the significant architectural values of this work. (Carter, 1999, p. 24)
All these aspects made this design a true masterpiece for modern architecture. But how does it relate to Mies' classicism? There were a couple of interesting findings with this building. From an early stage on this project I saw some elements in Mies' work that he might have take the classical taxis (scheme with an unique centre) as a starting point and manipulated the scheme from there on to eventually find the right scheme, shapes and proportions. Having said that, first I tried to trace the lay out back to either a square or a rectangle in order to see if I could attach taxis on it.

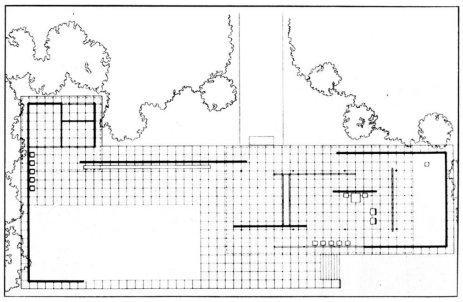
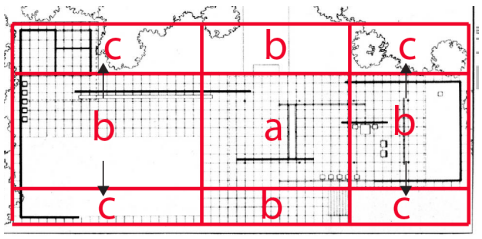


Fig. 10. Barcelona Pavilion floor plan.
Source: www.gopixpic.com

Unfortunately, I could not fit any taxis on this starting rectangle. However, trying to apply it on the current plan did give interesting results. Beneath you will see two versions that I eventually could fit in the plan, with both of them having the same unique spot (a). In classical taxis, this point "a" is the area that provides the strongest experience from that building, e.g. spiritual experience. A few examples of these would be the Greek temples or work of Palladio.
However, in this case "a" is a more functional area, the circulation gather point, which I would like to call the connecting space. The other areas become either circulation areas, or what I would like to call "observation" areas for nature, which is derived from Mies' philosophy.



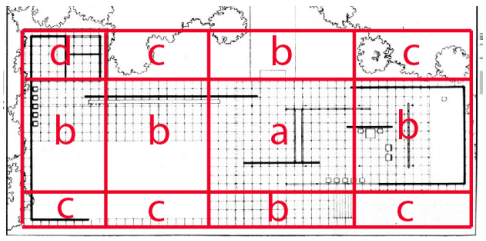


Fig. 11. and 12. Taxis applied on the plan.
Source: own images.

5.2. Farnsworth House

The Farnsworth House was earlier mentioned in the last paragraph of chapter two as an example of physical manifestation of Mies' philosophy. Let us take a look at Mies' quote to go further into this building:

"Nature should also have a life of its own. We should avoid disturbing it with the excessive colour of our houses and our interior furnishings. Indeed, we should strive to bring Nature, houses, and people together into a higher unity. When one looks at Nature through the glass walls of the Farnsworth House it takes on a deeper significance than when one stands outside. More of Nature is thus expressed – it becomes part of a greater whole." (Tegethoff, 1985, p. 130)

This theme of Mies, the reconciliation of man and nature through architecture, goes all the way to antiquity. Mies looked for this relationship between man and nature through the total opening of the structure. To realize this vision he understood that the landscape around the house must be transformed into another state, shaping the three dimensional space into a picture like backdrop, which occurs mainly on a perceptual level.

The Farnsworth house has neutral tones in its interior, because one has every colour outside. These colours (nature) change continuously and completely, which simply results in making use of nature to create an atmosphere. Here is another quote of Mies' about the importance of colour in the Farnsworth House;

"The Farnsworth House has never been truly understood, I think. I myself have been in this house from morning until evening. Until then I had not known how colourful Nature can be. One must be careful to use neutral tones in interior spaces, for outside one has all sorts of colours. These colours are continually changing completely, and I would like to say that it is simply glorious." (Tegethoff, 1985, p. 131)

Mies saw probably the white constructions of the ancient Greeks as a play with nature, which he applied later in his own work like this, with the intention of letting nature doing its own work and leading its own life.

Fig. 13. (left) Outside view from the Farnsworth House.
Source: http://www.blueprintchicago.org

Fig. 14. (right) Interior Farnsworth House.
Source: https://dami817.wordpress.com

As a result, I believe this was executed brilliantly. Although I have to mention that Mies had been given a unique opportunity to realize this concept in its

purest form. Since the client was a single woman, who wanted to use the house particularly as a vacation and weekend house, the floor plan could be completely attuned to the needs of a single person. A further advantage proved to be the remote situation in the middle of a still largely undisturbed riverbank landscape, far from any other buildings or public roads. Therefore Mies didn't see the need to screen the house from the outside. Nor did he even divide it up into individual areas of privacy. With the exception of the most private necessities, for which two separate bathrooms were provided. Basically, besides the private necessities, all the functions of daily life took place in one single space. This was organized into four areas by the projecting sidewalls of the closed core area. The I-beam columns are welded on the outside edges of the framework, which enables the panes of glass somewhat to set back and therefore clearly designate as openings instead of dark reflecting surfaces. Furthermore, the I-beams define the borderline of the space, where the glass walls stop up against them, creating small indentations. The combination of transparency and being elevated above the ground adds a huge quality to the design in accentuating the nature.

Fig. 15. The Farnsworth House blended in with nature.
Source: http://www.archdaily.com

Now referring to classicism, just like with the Barcelona Pavilion, I tried to put the plan in a scheme. For this, I actually had to approach the plan as a part of the scheme, instead of trying to fit the plan into a scheme. The drawings beneath show how the plan fits into the Greek mother scheme. Surprisingly, just like the Barcelona Pavilion, area "a" here is also the connecting space. In this case it is the small area that connects the two bigger rectangle parts of the house.

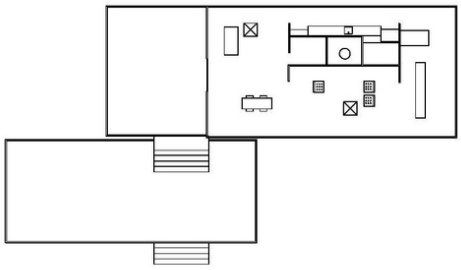
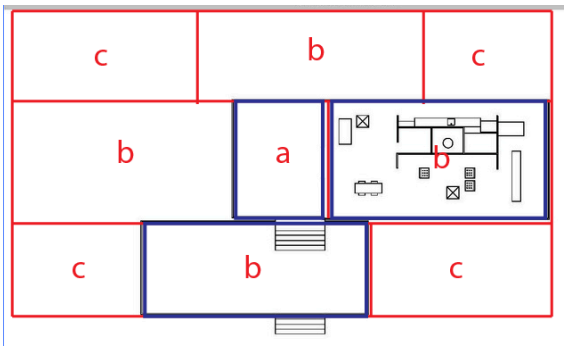


Fig. 16. Floor plan of the Farnsworth House.
Source: https://www.flickr.com



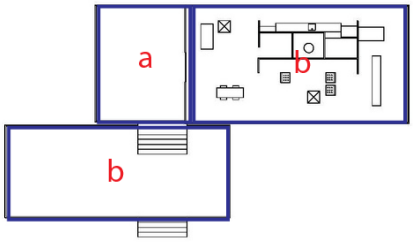


Fig. 17. (left) The house is placed in a grid, exceeding its perimeter.
Source: own image.

Fig. 18. (right) The house extracted from the mother scheme.
Source: own image.

Also, something interesting to mention about fig. x. is that it shows the Greek tripartition, with a beginning (b) – mid (a) – end (b). However, like mentioned before, with the Greeks "a" is the spiritual space. Since Mies gives a different meaning to "a", a functional or connecting meaning, this says something about the manipulative approach of Mies and the change of meaning through time. Where in ancient Greek era "a" was needed to accentuate the spiritual, in the time of Mies, with all the technological developments, "a" should reflect functionalism to accentuate its time.

5.3. 860-880 Lake Shore Drive Apartments

After the first two analyses of the somewhat smaller scaled projects of Mies, it is interesting to look at a big scaled project, the Lake Shore Drive apartments. Because of its different scale than the Barcelona Pavilion and the Farnsworth House, let us start by taking a look what this project means on an urban scale. According to Carter (Carter, 1999), there are several factors that have contributed towards its spatial character. First one being the creation of open as opposed to closed spaces
First one being the creation of open spaces because of the non-formal overlapping placement of the towers; second, the sense of penetrability by the use of the glass enclosures, which are set back from the perimeter columns on the ground level, providing easy and inviting access. Also, due to the limited site of the constructions, a new urban pattern was suggested, which was that of in the scale with the pedestrian.

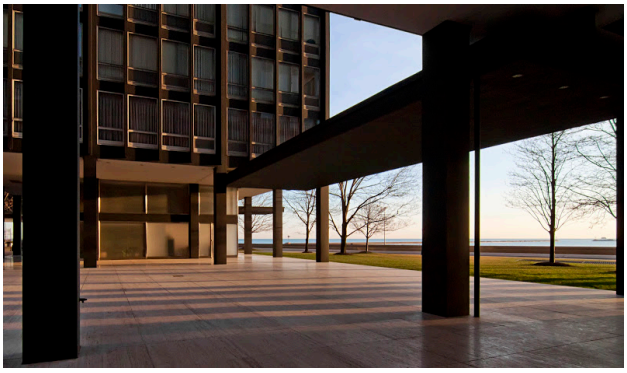


Fig. 19. (left) 860-880 Lake Shore Drive apartments.
Source: www.miessociety.org

Fig. 20. (right) View of the ground level, looking over the open landscape.
Source: http://searchpp.com

Interestingly, this building caused controversy amongst the pure minimalist community, because of its non-functional I-beam mullions on the facade. The controversy started with presumably Mies going against his own principle referring to his mindset of “less is more”. However, Mies clarified later in a 1960 interview that his “less is more” philosophy is not violated by the mullions: *"To me structure is something like logic. It is the best way to do things and express them".* (Puente, 2008, p. 31) The mullions on Mies’ buildings reflect the inner structure and therefore give truth to the aesthetic of the building. The idea of truth in architecture aligns with the aesthetic and principles of the international style as taught at the Bauhaus.”

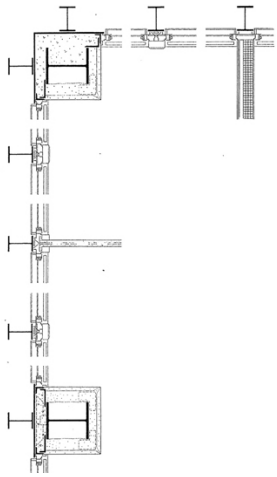
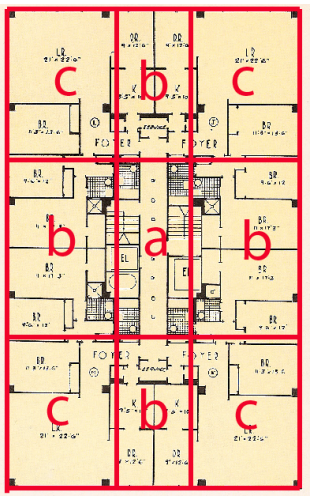


Fig. 21. (left) I-beam mullions of the Lake Shore Drive apartments.
Source: https://skylinearchitecture.wordpress.com

Fig. 22. (right) Typical Miesian detail of the façade.
Source: http://www.archdaily.com

The glass façade of the towers are set between the structural frame with its exterior face contiguous with the steel cover plates of the columns and edge beams. The skin consists of steel mullions, column covers, and floor and roof fascia plates, painted matte black; aluminium glazing frames with operable hoppers; and clear plate glass. The skin was fabricated on the building's roof in two-storey high, 6,4m widths, and lowered into position.

As for the classical part, when we look at the plans we see the fixed core, a characteristic of Mies' high-rise skeleton frame buildings, that was mentioned in chapter 3.2 with the apartments arranged around it.



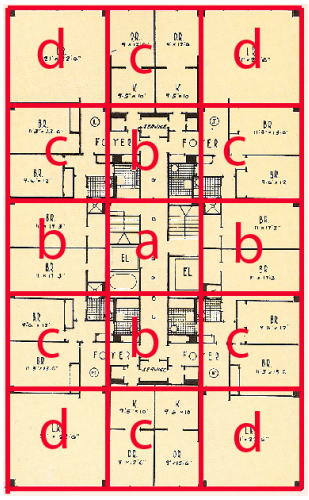


Fig. 23. (left) Classical scheme applied on the 860 apartment.
Source: own image.

Fig. 24. (right) Classical scheme applied on the 860 apartment. Scheme has been laid over the structural grid.
Source: own image.

After trying several schemes, the most fitting ones where these two, where “a” is the circulation area, just like with the other buildings of Mies, and “b” and “c” are the apartments.

5.4. New National Gallery

And finally, the last building in the case study series is the masterpiece of Mies, which can be seen as the Parthenon of the 21st century, the New National Gallery. This contemporary temple made of steel and glass is the summation of a life long experimental and theoretical search for the truth started in the 20's when he worked for Peter Behrens.

The analogy of a Greek temple, the neatness of the building, and the attention on proportions to make it human scale. These aspects, as Carter puts it, intend to make people investigate the spiritual dimension of man and his desire to free himself from material necessities and his own physicality.
According to Carter, Mies succeeded in expressing this desire through the idea of universal and continuous space in the square hall of the gallery. The roof and the façade allow, through a play of de-materialization of borders, to project infinitely interior of the museum on the urban landscape. Laura Pavia (Pavia & Ferrari, 2013, p. 48) says that the way Mies inserts his buildings in the city context almost always derives from the relation that he establishes between the main parts of his compositions: the granitic and compact basements, to which he entrusts the role of mediation with the geometry of the site, and the light and transparent hall, generally designed to accommodate the main function of the building and built with singular elements (pillars, roof and glazed windows).

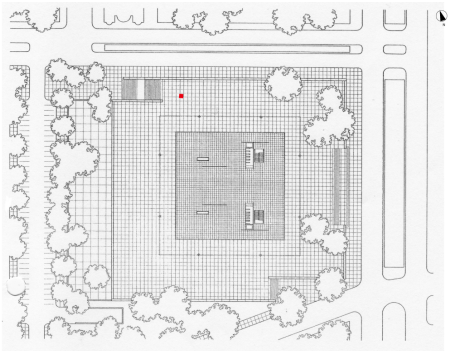
Fig. 25. New National Gallery
Source: http://germanhistorydocs.ghi-dc.org

The feeling that the gallery gives, besides the analogy to Greek temples, is a sense of monumentality. This is accentuated with the placement of the entrance hall on a large terrace, while the podium of grey granite is used to compensate the level difference between the Potsdamer Straße and the area to the west.
The lower level is on contrary to the upper level, closed on three sides by high walls. It is open on one side with a large window placed along the entire length facing an outdoor space. Apparently the clients wanted the spaces on this level to be more introverted.

As for the upper level, it is perhaps the best example of Mies' clear span building category, where the single span structure consists of an orthogonal grid of beams by 1,80 meters high, which are closed by a continuous compression plate. These are located on a square module of 3,60 meters and supported by cross shaped steel pillars of 8,40 meters high that are placed two on each side.

The hall measures 50,40 meters on each side with a continuous glass façade and steel frames in the full height of 8,40 meters. To accentuate the outer edge of the roof, Mies placed the façade two modules inwards from the outline of the roof, which also emphasizes the sense of lightness of the cover, almost like floating in the air as if the roof has no weight at all.

Moving up towards the classicism part of this building, I was curious to see if the scheme in this building was also like the previous three with a circulation, functional centre. However, unlike the other work of Mies, the Gallery fits in the exact same taxis of the Greek mother scheme, with the same intent of "a" being the spiritual centre. In fact, it is one on one copy that with of the Greek temples. Of course one can argue that the function of the building, being a museum, is about circulation and walking around, I have to point out that "b" and "c" is in this case just like the platform of a temple. Therefore I believe it accentuates more of a spiritual centre because of the schematic analogy.



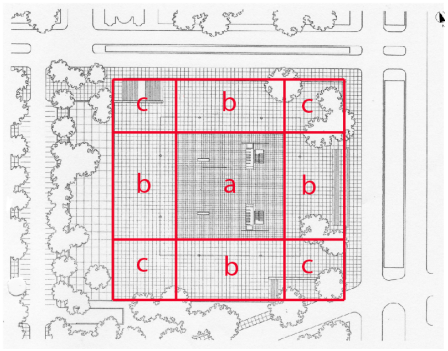


Fig. 26. (left) Upper floor plan New National Gallery.
Source: www.metalocus.es

Fig. 27. (right) Greek mother scheme on the floor plan.
Source: own image.

Finally about this project, I would like to show some similarities in visual means between the Parthenon and the New National Gallery to show several aspects of the Gallery that resembles the ancient Greek architecture:
The resemblances between different **elements and parts** of the buildings.

Fig. 28. (left) Corner piece of the entablature of the Parthenon.
Source: http://commons.wikimedia.org

Fig. 29. (right) The horizontal roof element of the New National Gallery.
Source: https://www.flickr.com

The **picturesque** elements of both buildings.

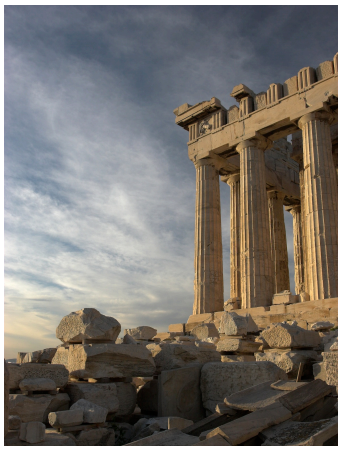


Fig. 30. (left) Picturesque Parthenon.
Source: http://en.wikipedia.org

Fig. 31. (right) Picturesque the New National Gallery.
Source: http://mazzarello.com

The **structural clarity** in both eras.

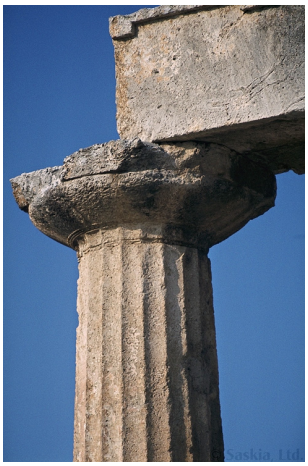


Fig. 32. (left) Meeting of the column and entablature.
Source: http://academic.reed.edu

Fig. 33. (right) Meeting of the horizontal and vertical elements.
Source:

5.5. Conclusion

Mies' work was all about integrating with nature. He did not use excessive colour in the interior so that the nature would stand out and work its magic within the building. The changing seasons, and the shift of day and night, give a constantly changing atmosphere in Mies' buildings. To fully experience these atmospheres, Mies did not want to have any distraction in the interior. Hence, his interior looks so minimalistic and yet so powerful and enriching. This is of course referring to his famous quote "Less is more".

The way Mies applied classicism in his buildings is very subtle. The classical schemes were either a starting point to manipulate the plan or in cases of the New National Gallery an exact copy of the classical scheme, that goes together with certain visual means towards the Greek antiquity. Eventually, I believe the most important part to mention about his work, is the way he applied classicism as a second layer of meaning in his designs. Whether if it's the mother scheme, manipulative or not, visual means, structural clarity, or integrating with nature, all of these characteristics gave me a good set of toolbox to start my own design.

6. Rules of Temple for Dancing Souls

Up until this point I did not mention anything about my project. This chapter will be an introduction about the project and also a concluding chapter to what I can take with me from my research.

I want to start by mentioning that my project, just like the topic of my research, is something very personal. I liked the idea of doing a research that fascinates me, that is why I wanted my project to relate to my personal life. In that regard, as a Latin dancer, I decided to design a ballroom pavilion. I have to say that when I dance, everything that bothers me in terms of materialism and superficiality, fades away and leaves me with a overwhelming satisfaction of enjoyment of the moment itself, without any judgement or thinking. It is just about the feeling and the connection with your partner. On this level, I found it intriguing how dancing and the reason for my research related with each other.

Fig. 34. and 35. Latin ballroom couples.
Source: http://www.cuartitoazul.nl

In order to relate my research to the ballroom pavilion, I have to decide what role classicism is going play. We saw that for Mies, classicism was a second layer of meaning, a layer to not to forget our humanistic values. While as the first layer, Mies' era, was in a technological blossom, where usage of materials like steel and glass became more and more prominent. An era where a new structural principle was taking over, which Mies mentions in his projects as structural clarity.
From that perspective, I must answer the following question, which is also answering the fascination question; what can classicism mean for our materialistic society? Since, as the question suggests, the issue is not technological like Mies' era, but rather sociological matter, I am tending to identify my problem more with the Greeks, where classicism portrayed a human scale and the importance of nature, and therefor the eternal, the spiritual world. Furthermore, I believe this also goes hand in hand with the act of dancing, where being the moment, together with a spiritual atmosphere of the ballroom, could create a divine experience.
To achieve this result, I pinpointed some of the information from my research that would fit a ballroom.

In the order of this paper, the following aspects are suitable and preferred to apply it in my design:

- In chapter three we saw how much the Greeks valued the importance of their surrounding and added this as **picturesque** elements in their designs, and also the value nature had for Mies van der Rohe. So, placing my project in Het Park in Rotterdam, gives me opportunities to achieve picturesque elements so that the ballroom, the dancing, can be spiritually accentuated (lifted) and in a sense glorified to something divine.
- In chapter four we saw the classical architecture existing of three categories, which all of them where directly or in a manipulative manner used by Mies. The **tripartition of the classical architecture** will also be applied in my project. Especially **taxis**, the schemes, will play a huge role in the design process. I expect this focus to be more traditional like Greeks or Palladio, than manipulative like Mies.
- As for the elements, the **proportions and rhythm** used for the classical orders will be the point of departure, for example for the column study.
- I think it speaks already for itself but **symmetry** would be implied to achieve order and harmony in the design.
- As for the structure, I believe this will be the project defining part. The most important thing I have to create is a spacious area for people to dance. Therefore the structure has to speak for itself and mean something. This is where Mies' **constructional clarity** would be on point for my project. Especially his category of clear span building as described in chapter 4.2 fits within the functional requirements of a ballroom.
- **Materiality**, described in chapter 4.2, should be mostly granite, marble and wood. Mies' argument for this is the durability of the materials, especially in public buildings. Since the ballroom should be classy and stylish, I am tending to give these three materials a go during the design process.
- Also some conclusions from the **case studies** will have their influence for the project.
    - Barcelona Pavilion; **structural clarity**. I believe this work of Mies is the best example where the structural and non-structural elements are clearly visible.
    - Farnsworth House; **expressing nature**. The use of passive colours on the inside to avoid disturbing nature with excessive colours, so that the building becomes one with nature, therefore harmonious.
    - New National Gallery; **functional and analogy**. Having two columns on each side to support the roof makes the space inside appropriate for ballroom. Furthermore, I believe this building is the best example of Mies that draws a very clear analogy with Greek temples, just like shown in chapter 5.4.

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