

Physical Order and Disorder in High-tech Architecture Style

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Abstract: Architects of this style consider the technology a great achievement of modernity and also consider it as the most important factor of development in the twentieth century in their opinion the main characteristics of each era shaped physically in the architecture of that period. Opinions and theories of Modern architecture and high-tech are so close to each other in the main principals and it can be said that the high-tech architecture is the Good Replacement of modern architecture. But in shape there are some differences between two styles In general it can be expression that the simples which is in modern architecture is not seen in high-tech and if the modern architectures display the machine their design, the high-tech architecture display the inside of the machine and its components. Max Bense who is one of the founders of informative aesthetic believes that, order has three degrees: chaos, being structured and being shaped. When we consider complete chaos that there are no regulations for connection between different components. In this case the possibility of prediction equals zero and innovation in maximum. Definition of being structured is one organized order with a structure that might have different forms. Bense calls the third part of order as a “chaos or disorganize order”. In all three factors above replacement of components affected by a general organization whatever the rate of order is more and this order is more complicated, the informative content is less. In this paper first we have introduced this style briefly, we described order and disorder in the architecture and we have analyzed Evidences of order and disorder in this style.

Key words: Physical order and disorder, High-tech architecture style, Evidence

High-tech architecture:

In 1971, two young architect names Richard Rogers and Renzo Piano resident's inhabitant in England and Italy, in the building design competition for the center of Georges Pompidou in Paris, among participants were announced winners.

Initially, all of the functional structural elements of the building were color-coded: green pipes are plumbing, blue ducts are for climate control, electrical wires are encased in yellow, and circulation elements and devices for safety are red. However, recent visits suggests that this color coding has been partially removed, and many of the elements are simply painted white. These architects were starter a style in Europe that becomes well-known named “High- Tech” or highly technology in the world of architecture.

Architects of this style consider the technology a great achievement of modernity and also consider it as the most important factor of development in the twentieth century in their opinion the main characteristics of each era shaped physically in the architecture of that period. For instance, ancient Greek temples with that order and complete geometric proportions to be consider as a perfectionism mentality of the ancient Greeks and massive Buildings/ edifice of ancient Rome are the display of the power and authority of Caesar and finally Gothic churches display the Power of church and mentality of middle ages. Likewise, today's buildings should display the extract of thought and technical for the present era which we now name that technology. Opinions and theories of Modern architecture and high-tech are so close to each other in the main principals and it can be said that the high-tech architecture is the Good Replacement of modern architecture. But in shape there are some differences between two styles. In general it can be expression that the simples which is in modern architecture is not seen in high-tech and if the modern architectures display the machine their design, the high-tech architecture display the inside of the machine and its components.

Rogers says: like gothic churches we reveal the structure and elsewhere write: technology offers us more control not less. Future buildings will be more like Robots until the temple. Like chameleon, they adapt themselves with the Surrounding environment. Perhaps it could be possible to summaries the base thought of

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Rogers in this style which says in modern era should live in modern buildings.

Eiffel Tower in 1889 Exhibition in Paris is the ideal building of high-tech architectures. Eiffel Tower with 330 meters high and seeming metal skeleton is the symbol of technology achievements in the modern age. Richard Rogers express his belief like this: the ideas which we are doing architecture in many aspects has origin in our beliefs and connected to this which we study the building like a book. For a building to be legible (or understand able) its trend of construction should be visible. This is the style that use one doing architecture and we feel that this task has been done and this issue never has newness, the Gothic massive church is very distinct example.

Principles of intellectual and design of this style:

1. Positivism insight and optimism to the science and the scientific and technical progress;
2. View technology as a present era of achievement and extracts;
3. Display construction process
4. Clarify, and Layer after layer display moving in the building;
5. Display structure and component within the building façade;
6. Use light colors and simple
7. Structure as a ornament
8. Use light stretching components;
9. Building roof design as a fifth façade building;
10. Unlike the public image, architects are interested in high-tech history and do not know themselves apart of it.
11. Rogers believes that every building should reflect its time. In his opinion in the technology age we couldn't inhabit in ancient Greek homes or in ancient Empire Rome
12. High-tech architectures with belief to positivism insight, believe that the problem is not technology but, the solution is in the correct using of technology.

Today in the works of these architects was it is seen that by using of technology have the attempt in maximum use of natural factors like sun, wind, underground water, Plants for adjusting environmental condition of building. Therefore in their modern architecture which called by the name of Echo-tech (Ecology + technology), technology is not against of nature, but is beside and in parallel of that for further efficiency from environmental facilities and providing convenience for human.

Physical Order and Disorder in Architecture:

The architecture is composed of different part. The connection between these components has been organized. It means that all these components are subsystem of an organism. This system or organism might be very simple or complicated. Max Bense who is one of the founders of informative aesthetic believes that, order has three degrees: chaos, being structured and being shaped. When we consider complete chaos that there are no regulations for connection between different components. In this case the possibility of prediction equals zero and innovation in maximum. Definition of being structured is one organized order with a structure that might have different forms. Bense calls the third part of order as a "chaos or disorganize order". When we talk about this order that in which all materials have been replaced that displaying the choices have been picked up freely and in united system.

In all three factors above replacement of components affected by a general organization whatever the rate of order is more and this order is more complicated, the informative content is less .But we should not think that more complication equals chaos automatically. This order couldn't be recognize easily and could even cause mistake. More order equals less innovation .In complete chaos the probability of all components are equal, so squandering information equals zero and in consequence the possibility of new combination or maximum creation is possible.

Continuing of a style is in connection with order and squandering information and not to be with innovation. The contrast of styles comes from the difference of its components and its dominated order .In this case they have been more or less complicate and by means of that they have been connected by viewer or user. For example in Indian temples in India there is an order that they are not identifiable at the first glance because their components are almost complicated.

Order means obligation automatically. Whatever this order is sever the open space is less so it could be remained for the variety of components. And each part should obey these rules more and more. In a case that some these parts couldn't even do their main task and in reverse a kind of complicated order creates more

freedom and this freedom creates more open space for forming the components and causing opacity. The two kinds of orders, of course, have some exceptions just in a condition that the main factors of organism stay stable and without changing.

Buildings which are in order and are not flexible give us less freedom. In the other word changing one factor in this system could hardly possible. But in the opposite, these architectures give us their messages very clear and straight and nothing for personal interpretation for buildings with complicated order the issue is something else. Here in this case, we are completely free to act. Personal interpretation and opacity are possible. Such building expects us to be more active. We ourselves should discover the order of that and also search for its system. We can compare this building with Picasso's painting named Guernica. In there also this is viewer wants to comprehend the painting and this is also the viewer who is obliged to search about the organism and thoughts, problems which lay behind of the painting.

Architectural styles of Mies van der Rohe and Venturi are eventually the same (Spectrum). The contrast between the two even influenced the choice of materials. But which one of these two styles is better or more beautiful?

For answering this question it would impossible find a definite answer. As we will see the value of aesthetic of objects could be measured or adjusted. This value equals with the consequence of the division of order by complication. Whatever a building is more complicated its organism should be more expanded that we will be able to find a measurement for its aesthetic.

Buildings with severe order like many of Mies van der Rohe's works, either gives no opportunity to complication or it ends to chaos. In the other words, the Robert Venturi's open order needs complication that wouldn't be naively.

The important note is that in each style should be equivalent between complication and relevant order the comparison between two styles is impossible. We couldn't consider any style as the best in architecture absolutely.

But which or who make it clear that how the dominated order should be, simple or complicated?

In T .Munro's opinion that: the complication in an organism continuously being increased in an art till it makes studying harder occasionally. The consequence of this hardship is the general turning point and return to a more simplified organism. The trueness of this Munro's idea could be confirmed by informative theory.

Peter smith proves that during architecture history, one phase with three steps is really recognition which has been repeated several times.

- A severe and distinct order dominates in first step. Coordination and simplicity has basic role in this era.
- The main characteristic of second step is tension.
- Lack of clarification and seduction are the main traits of third step. Order in here is that complicated which we are approaching to the maximum capacity of our conceptual.

There is a direct connection between the rate of regularity and division of information to semantic and aesthetics quota of semantic information and with the same ratio the effect of wisdom on emotion will be more and vice versa: when aesthetics information has had more quota or order is more complicated emotion dominates on wisdom.

An introvert person who is rationalist basically prefers the clear order and extrovert person is more emotionalists and prefers the complicated order more.

Evidences of Order and Disorder in this Style:

Other examples of characteristics and traits of High-tech architecture, we can mention factors as follows: Emphasis on industry components and prefabricate in the shape of organized and regulated. Create undivided spaces by using space frame and industry advanced elements.

Using stable and stand glass wall in a shape of united surfaces in external partitions of construction by using components and compound structures of light steel.

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- View technology as a present era of achievement and extracts;
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- Structure as a ornament
- Use light stretching components
- Building roof design as a fifth façade building;

High-tech is a foresighted style which means continuity of glassy and iron work buildings of nineteenth century but it is upon modern technology. In High-tech architecture because of using building with its scaffolding and suspended, periodic floors and also with it separated and broken external facades submitted an ideal view of modernity. Thoughtful principals and key words of that are: operation and efficiency/industry and machine/ prefabricate / standardization/ considering the future/ science/ math and geometry/ proportion and harmony/ logic and wisdom/ Positivism/abstract art and international style.

Conclusion:

High-tech is a foresighted style which means continuity of glassy and iron work buildings of nineteenth century but it is upon modern technology. In High-tech architecture because of using building with its scaffolding and suspended, periodic floors and also with it separated and broken external facades submitted an ideal view of modernity. The source of inspire of architecture is high-tech technology. Thoughtful principals and key words of that are: operation and efficiency/ industry and machine/ prefabricate /standardization/considering the future/science/ math and geometry/ proportion and harmony/ logic and wisdom/ abstract art and international style.

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