

Architecture is always in a constant state of development. Wide range of historical epochs, which are closely connected with art and technological development, presents infinite number of examples of buildings which contain art as well as science.

According to Pevsner (2005), in XIX century the wide use of iron changed the perception of building and construction. It was welcomed by many architects as it gave more possibilities for the flow of imagination and created a completely different image of the building. With this change it might be said that the look of urban landscape was completely changed. In comparison to the previous epochs the use of iron gave the feeling of power and strength. Many architects such as Dutert, Eiffel, Scott, Garnier, and semper used steel to come to the first point of a new concept of buildings. Eiffel's Tower was a forerunner of the future skyscrapers which were not even thought through by precursors of the architects mentioned below.

These changes and innovative thoughts went out of the usual vocabulary and where so modern that the terms which were usually used became out of date. Due to the fast pace of development people faced the need for new terms and words which could be used instead. The typical example of such words is elevator. The creation of Elisha Otis gave people the possibility to overthink the concept of the building and brought the idea of buildings which can reach the sky with their tops. The example of such buildings might be The World Trade center which contained twin 110 meters high buildings destroyed in the September 11, 2001. Nowadays, science and technologies are developed even faster. The development of new alloys which give more strength and less weight shapes our vocabulary. The wide use of electronic devices in construction and even cyber technologies has a prominent influence on our term base.

Now we live in the period when usage of iron/steel, glass, and concrete is the major way of building. This period was influenced by creations of Joseph Paxton, Otto Wagner, and Charles Rennie Mackintosh. Paxton created a perfect example of skyscraper the Crystal Palace. It is a shining example of use of iron and glass. It combined a few principles which characterize the modern architecture, they are based on the idea that the result is based on the functional requirements. It should be mentioned that general term which characterizes the present period is machine aesthetic. The shining example of such building is Seagram Building which was built in 1958 in New York.

The use of iron and glass gave the possibility for architects to make a good use of space. It was an innovation in the architecture which brought new features to the usual building. The differences might be shown with the help of the Bibliotheque St. Genevieve. Constructed by Labrouste with the wide use of iron it appears to be not only a spacious building with well-planned interior but also a masterpiece. Labrouste chased the idea that each building has to be made not only for practical purpose but it can also serve for the art. Even though the architect was a member of Rationalist School, which declares that it was not so important to use classical ornament but to have more space, the building inside has a structure which was typical for buildings of that period. The iron brings the feeling of lightness and the structure is rather sophisticated. Inside you would find 16 columns which serve for separation of the main reading room. Barrel vaulted ceiling is supported by semi-circular trusses.

Crystal Palace created by Paxton is not an outstanding example of use of iron and glass except the fact that it is gigantic. It is 1851 feet long. Bibliotheque St. Genevieve has a lot in common with it. Both of them are the typical examples of the period which might be characterized as a beginning of the new epoch in architecture and art. They contain simplicity and spaciousness combined with functionality and beauty. On the other hand, there are a few things which make them different. First

of all, Paxton's creation was designed as a great water park which was intended to serve practical purpose. The use of glass was more functional to bring more light and make it visually larger. Labrouste's creation was aimed at fulfilling not only functional side but he wanted it to be a masterpiece.

References

Pevsner, N. (2005). *Pioneers of modern design: From William Morris to Walter Gropius*. New Heaven and London: Yale University Press

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