### THE INFLUENCE OF INDUSTRIAL DESIGN ON RESIDENTIAL SPACES

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### **ABSTRACT**

In everyday speech, industrial design generally refers to the form and function of the product. Designing a product means solving the functional and aesthetic characteristics of the product, while considering the sales of the product, the costs of production or of transportation, storage, repair, and exposure. Industrial design differs from art by the fact that the fine artist has complete freedom in choosing the content of his work, the structure, form, and colors, while the industrial designer, on the contrary, creates within numerous restrictions.

The term industrial design today is fully affirmed with its meaning. The origin of this term should have been sought at the end of the last century when there was a reaction to industrial products and nostalgia for artistic objects. However, industrial design is not a discipline that deals only with aesthetic values., rather, it strives to encompass the industrial product in function of the rational and irrational needs of man. Living spaces are simply not functional without the industrial products and semi-products they make the main functional link.

## KEY WORDS industrial design, art, space, architecture

...Industrial design is a creative activity, the purpose of which is to determine the formal properties of industrial products. These qualities include the external characteristics of the products, but mainly those structural and functional reciprocity of the relationship that make the product a unique whole, both from the point of view of the user and from the point of view of the user of the interior...

Industrial Design in the Modern Era. Industrial design today is a kind of art in industry. The simplification of decoration and the presentation of structure inherent in the contemporary style have guided industrial design for decades. Many architects claim that the industrial buildings of the beginning and middle of the 20th century strongly influenced the direction of the overall trends of architecture in the modern era. Industrial buildings became architectural landmarks, architects were often hired to design, turning it into public buildings, apartments, or recreational facilities.

**Industrial design in residential buildings** Industrial design means the appearance of a whole or part of a product, which results especially from the characteristics of lines, contours, colors, shapes, textures and materials of the product itself or decoration. It includes a visually visible complex of product characteristics, where he must perform a certain function.

Industrial design is a professional service for creating and developing concepts and specifications that optimize the function, value and appearance of products and systems for the mutual benefit of the user and the manufacturer.

Design quality is achieved when the correct balance is established between the basic factors and the satisfaction of the psychophysical needs of man. Technical, functional, aesthetic elements must be represented in every product. These elements must be represented in sufficient measure with their combination to reach an original harmonious solution. The idea of industrial design penetrates not only into the residential space, but also in all types of objects.

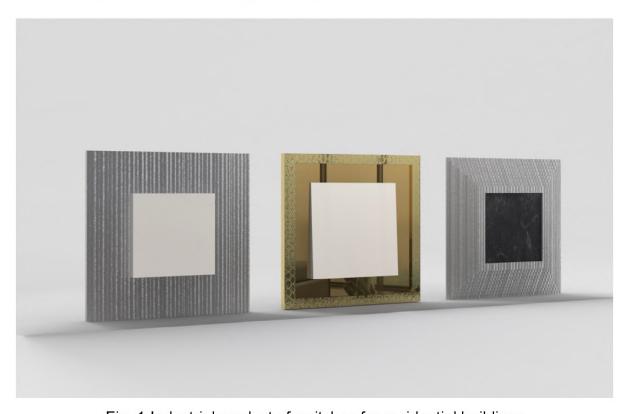


Fig. 1 Industrial product of switches for residential buildings

According to intellectual property law, industrial design is one that refers only to the decorative, i.e. aesthetic aspects of the product. In other words, it only refers to the appearance of that product. Industrial design is important for a large group of industrial products, fashion and handmade products from technical and medical instruments to watches, jewelry and other luxury items, from household products, toys, furniture, electrical appliances to automobiles and architectural performances, from textile design to sports equipment, as well as designing products that serve residential buildings.

Industrial design represents the determination of the shaped qualities and relations of industrial production objects, assortment, communication, composition processes and environment, to satisfy the conditions of production, distribution and by using the conditions of interdisciplinary methodology. The interdisciplinary methodology represents teamwork, because the industrial designer does not can be expert in all areas. The structural complexity of the design requires respect for a certain organizational model. The decision-making process and the design process are related processes. The closer these processes are, the greater the creative freedom, that is, if they are far away, the creative freedom is limited by control parameters. This applies when it comes to large investments in the interest of the wider circle of those directly involved. Every conscious design requires a model and methodology that will enable control of the process and will enable evaluation

parameters. In the process of industrial design, the methodology and the organizational model of the design process have great importance.

### Interior

The interior provides a sense of completeness and a sense of shelter. Three basic architectural elements are used to define the interior. These elements are walls, floors and ceilings that are constituted by flat elements. Therefore, the design of interior spaces can be separated by both structural and architectural elements. While the building's structural system and architectural elements form the basic form of interior spaces, the selection and arrangement of design elements also shape other necessary requirements for interior spaces. The color, texture and pattern of wall, floor and ceiling surfaces affect the visual perception of the interior space. Dimensions, scale, and proportional relationships between elements also affect the perception of space (Ching, 2005). Even the use of light affects the surfaces of the interior space.

Furniture, as part of the interior, makes the space suitable for living, providing comfort and adaptation in the form of activity (Ching, 2005). People prefer to use furniture because it helps to keep the activities in a more comfortable way. In other words, sitting on a chair or stool is much more comfortable than sitting on the floor (Nilson and Taylor, 1994). The furniture is a special and ergonomic product that is intended to fulfill specific functions, and it should be adapted to the nature of the activity. The shape, line, color, texture and volume of furniture products also affect the type of activity. The furniture is usually chosen depending on the choice and desire of the user. There is no set rule to follow. Furniture varies from design to design, from person to person and offers a transition between interior space and people (Ching, 2005). The way of using furniture affects the use of space. Circulation and flow between spaces is also dependent on the furniture. The furniture is used both in the external and in the internal space. for indoor use, includes furniture, fabrics that can be used on wall surfaces, on floor surfaces, on furniture, decorative or other accessories.

Interior designer means placing emphasis on planning, functional design and efficient use of space involved in this profession, compared to interior decorating.

Interior design is not only about the home environment, but also concerned with creating the functional and beautiful in the interior rooms, in all kinds of facilities including houses, public buildings and business space, such as shops, restaurants, entertainment places, leisure places and recreation, offices, etc. Interior design can also be applied in a temporary environment, whether it's a store for just a few months, or exhibition stands. The interior can be designed, redesigned, or renovated.

Imaginative and effective use of color, pattern, texture, and light in space is a central theme in the practice of an interior designer. Most interior designers solve problems related to all aspects of space design from color selection to wall coverings and furniture. Some, on the other hand, step into the territory of architects, shaping the structure of the space around them, as well as decorating it.

Interior Design in Residential Spaces Interior design describes a group of different but related projects that involve turning an interior space into an "effective setting of scope for human activities." Good interior design will not only make a space look and function better but can also have a significant impact on mood and well-being. The application of crafting color schemes, well-designed furniture and careful manipulation of light and space can all make a real difference to how we feel in that environment.

In all cases, interior design can be used to reflect status, ambition, and taste.

This is especially true for residential interior design, and its efficiency should increase the value of the property. The way we design the interiors of our homes can affect our happiness, our productivity, and our health. The range and possibilities of interior design disciplines are wider. Interior designers may specialize in kitchen or bathroom design, interpreting trends and fashion, or focus on the architecture and structure of a building's interior. Implementation of efficient use of space, user-well-being and functional design contributed to the development of modern interior design. Imaginative and effective use of color, pattern, texture, and light in space is a central theme in the practice of an interior designer. Most interior designers solve problems related to all aspects of space design from color selection to wall coverings, furniture, and industrially designed products.

The influence of industrial design on the interior A beautiful interior attracts everyone who is in any contact with it, creating a sense of satisfaction and a sense of authentic living in a well-designed environment. When it comes to interior design, the sense of integrity is basic, especially for designers and other professionals who during the day face the problem of selection for materials and forms with which they decorate the home. When selecting materials, it is recommended to emphasize natural materials such as wood, brick and stone due to their qualities that contribute to increasing the effect of the design in a certain area.

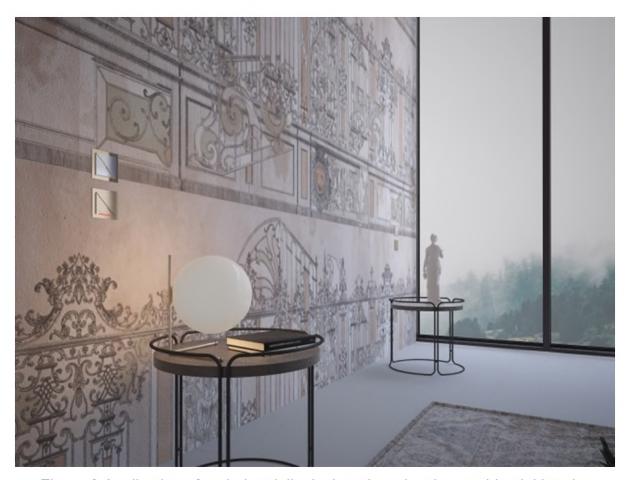


Figure 2 Application of an industrially designed product in a residential interior

According to Seymour (2002) design can be seen as an activity that translates an idea into some useful format, whether graphic, textile, ceramic, service, or process. The most important part of designing is the translation of the idea. Design

does not have to be new, different, or impressive to be successful in the marketplace, if it meets a need, but design methods lead to innovative products and services. Broadly speaking, design is the art of creation. More technically speaking, design is a conscious, deliberate process by which elements, components, potentials, and tendencies are deliberately arranged in the space-time-continuum, in order to achieve a desired result. In its fullest, most powerful expression, design is imagining and bringing about new worlds or ideas (Mare, 2009). Miller (2009) explains that design is also intuition, a form of subconscious thought that leads to a deeper sense of knowing, often in the obvious. absence of rational confirmation. Intuition is like the extended insight that tells us that we are involved in something. It is pride that often underlies our efforts to perform rational analysis.

Design, on the other hand, can be a conscious attempt to create something that is both functionally and aesthetically refined. Residential buildings are closely related to industrial design, and they largely determine the decorating style. In many cases, they are the starting point for stylistic determination, and the concept of an interior solution for living spaces begins from their choice.

### CONCLUSION

Good and successful design starts with a great concept. So, what happens if you have a visionary spirit that is crucial for a designer. The designer must know the creation process and the concept. The creation can be perfectly shaped but if there is no message i.e. If it does not communicate with buyers in the right way, the creation will not be successful in meeting the needs of the target group.

One of the most accurate and enduring definitions of design is that design is the shaping of objects and environments that satisfy human needs. The key word of the definition is need. Only the design that analyzes the way of life of the modern man and the needs of the users arising from himself and tries to satisfy those uses, leads to a happy and better society.

At the beginning of the 20th century, people are very eager for information, new thoughts, and the need for answers to the questions: who are we, what are we made of, where are we aiming for? All existing opinions are being questioned, the value of everything that exists, and the moral norms and aesthetic values of societies are changing.

Designers have an obligation to subtly educate society about the values to create a striking and intuitive work, it is too important that the designer has something to say. Developing a design concept that tends to become an innovation is of great importance, the more innovative the concept, the more likely the visual interpretation is to be innovative. The talent of the designer plays a big role in how successful he will be in interpreting the concept of the work.

New ideas arise in the minds of creative individuals in their hard-to-reach lonely side of consciousness that the common man cannot understand.

All in all, our future depends on design as a mixture of art (meaning emotion) and its comprehensive essential and natural knowledge. Although being a designer means being primarily an educated person in that aspect, every person is a designer for himself and his environment. As long as humanity exists there will be designs. Therefore, it is necessary to create, art is not the result of satisfaction, if we were satisfied with everything around us, there would be no need for new creations. Despite our individual needs, all living things on this planet are united by one thing, the need for nature.

### **REFERENCES**

- 1. Anić, Goldstein, Rječnik stranih riječi, Novi liber, Zagreb, 2007.
- 2. Applewhite, E. J. Cosmic Fishing: An account of writing Synergetics with Buckminster Fuller. 1977 (ISBN 0-02-502710-7)
- 3. Applewhite, E. J., ed. Synergetics Dictionary, The Mind Of Buckminster Fuller; in four volumes. Garland Publishing, Inc. New York and London. 1986 (ISBN 0-8240-8729-1)
- 4. Blotkamp, Carel (ed.) (1982). De beginjaren van De Stijl 1917–1922. Utrecht: Reflex.
- 5. Blotkamp, Carel (ed.) (1996). De vervolgjaren van De Stijl 1922–1932. Amsterdam: Veen.
- 6. Chu, Hsiao-Yun and Roberto Trujillo. New Views on R. Buckminster Fuller.(Stanford, CA; Stanford University Press, 2009) ISBN 0-8047-6279-1
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