

## **PRINCIPLES OF THE USE OF SYNTHESIS OF ARTS AND INNOVATION IN DESIGN DESIGN**

*Annotation: In the modern design - the design of the following application of the principles of synthesis of arts and innovation in design engineering: system, decorative, informational and communicative transformational innovation.*

*Keywords: synthesis of the arts, design, innovation, principles.*

**Statement of the problem.** Introduction of innovations in design engineering is an urgent task, the corresponding deep essence of design. Question synthesis of the arts, in spite of what is seen from the sixties of the XX century., Until the end has not been studied in detail, especially the synthesis of design and arts. The appearance or development of styles relevant for late XX - early XX century., Such as postmodernism. post-industrialism, loft, minimalism, deconstruction requires reflection of how efficiently and how to use innovation and synthesis of the arts in modern design. In this issue of determining the principles for the use of synthesis of arts and innovation in design - the design is not explored.

**Analysis of recent research.** By Design - design can be noted in Ukraine, as the most representative, representatives HDADM scientific works, for example, V. Turchin [14] etc.

For the study of the principles and techniques of design produced a number of studies, for example, thesis Sapunova MY, considering design techniques associated with the construction of facilities musulmanskih Crimea XII - XVIII century. [11]. As an example, the definition of the principles in a certain direction can cause thesis Dubinsky VP [4]. In fact such is the work of LM Koval on the principles of design methods of forming LED - technology [5]. Panov VV Architecture - typological principles of designing museums universities reduces the principles of space-planning decisions and the composition [9]. Morozova, NV considered the principles and techniques of architectural formation of coastal recreational complexes [8], Belov, MI - Principles of the subject - the spatial environment of the pedestrian street. [2]

Rich experience of learning concepts and theories in design - designing passed relatively recently deceased theoretician of "non-design", Director of the Institute of the Innovation Promotion of the Public Chamber of the Russian Federation Glazichev VL [3]. One of the first in the former Soviet Union, he drew attention to the American concept of total "design - commerce" in which firms seek to increase the maximum time allowed for reflection problems, and to minimize the time spent on the artistic process. When considering the non-design at the present stage it is necessary to note the relatively innovative nature for Ukraine.

Base for innovative creative work in the USSR was the idea of GS Altshuller development of TRIZ (Theory of Inventive Problem Solving). [1] Modern labor Sarkisov SK on the basics of architectural heuristics [12]

based on the ideas of Altshuller. For heuristic design engineering general work does not exist yet. But innovative ideas there. Widely known professional design awards such as the Italian "Golden Compass ADI», primarily based on innovation. For example, a well-known mobile phone «Grillo» (1966) Italian designer Marco Zanuso and German Richard Sapper, modern car Fiat 500 and others described on websites.

When discussing work on the synthesis of the arts usually refer to the most well-known authors who worked thirty years ago, such as GI Stepanov, Shvidkovskiy OA, AJ Zisetc. [6, 13, 15]. The example of contemporary publications Pis'mak YA You can make sure that the topic is relevant synthesis of the arts today. The author has ten publications on the subject, for example in [7].

Review of the published literature showed that modern designers actively and sometimes bezsistemno uses a synthesis of arts and innovation in design - design, in connection with what is necessary to create a theoretical basis for solving this problem.

**The wording of the purposes of article:** determine how to use the synthesis of the arts and innovation in design - design.

**The main part.** One of the first I would like to consider the systemic principle, which requires solving the problem of combining art, clean design, with innovative design objects design. Itself the task of innovative design complicated. Work on the prototype design with objects that require a substantial investment of money, as objects aircraft or shipbuilding, is traditional.

Designing furniture or fixtures can carry more innovative value. But these objects is proposed to consider in dealing with the complex task of synthesis of arts and design. Especially important character acquires such system design for designing objects, consisting of a variety of other design objects, such as interior design. It is important to determine the extent of saturation of the interior art using innovative elements. This may not necessarily be radically innovative direction. Recommending correctly in terms of ergonomics and aesthetics to place the same laptop in a small apartment - those problems also belong to this area.

Consider the following transformation principle, which reflects the transformation in the perception of object design. That is actually a design object is transformed into a completely different design object, losing function, but this change leaving formative features of the first object.

As an example, in Figure 1, consider the transformation of modern boxing seals in the chair "bean-bag" and a sofa, or a soccer ball in a chair made of leatherette. The greatest harmony among the examples presented should be noted in the paper of Urbino and Lomazzi P. posing for Heller Furniture sofa transformed from gloves.



*Fig. 1. Transformational principle in modern design objects*

Most saturated objects such transformation era sixties - seventies of the twentieth century. Pop art and postmodernism produce the greatest number of these design objects based on the principle of transformational. For example, in the interior Dzh.Kolombo his apartment not just a synthesized design objects in accordance with the classification of synthesis on the third level, and the upper part and transformed into a kind of chaise bed (Fig. 2). You can see many of the works in terms of the transformation principle of "master of figurative metamorphosis" G. Pesce. Figure 2 shows the objects he designed furniture, artistic image showing association with a travel around a campfire. Sleeping bag turns into a chair. Or as an example, his famous sofa, consisting of seat and backrest - "skyscrapers" and as if the rising dawn red sun behind the couch.

There must be a principle of modern design - design using synthesis of the arts, including design, based on new techniques and technology.



*Fig.2. Transformational principle objects of design style postmodernism*

For example, it is known that in the Dresden Technical University conducting research, communicating with each other through computer analysis of video camera filmed contemporary dance and music (3). Conditional fixed point for the top point of the head dancers ends of the middle finger and toes. Thus, five lines move. The interior of the cafe over the stairs posted lighting structure, consisting of a plurality of long neon tubes that vklyuchayutsya removed in accordance with the movements of lines - analogue movements dancers under the sounding music. Such a synthesis of the arts and the use of lighting has already found its fans, but the dynamic LED-lighting, which could be associated with the synthesis of the arts, almost scientific publications is not considered, although it is possible to predict the future widespread use of dynamic LED-lighting in entertainment centers



*Fig. 3. Development drezdenskogo Technical University as an example of innovative use of the principle of*

Thus, this principle is based on the new techniques and technologies in the synthesis of the arts, can be called innovative.

Using arts and crafts always warms the heart of national traditions in the interior, whether it's small apartment kitchen or a modern airport terminal. Recourse to domestic unconscious person in the form of patterns on the floor, ceiling, wall, it does not matter in this context in which technological embodiment: Hutsul woodcarving, Lemkivskavytynanka, Petrikivsky and so on - in a modern interpretation of the use of techniques and novihnovih materials requires the introduction of another principle - decorative.

Last of the defining principles of design designing considering the synthesis of arts and innovation: information-communicative. New information technologies are seen primarily through the Internet, secondarily via television. Radio moves in the test context is actually to the background. The most common use of information and communicative principle will be the first and third level synthesis of the arts.

**Conclusions.** Determined following vikoristannya principled synthesis of arts and innovation in design-design: system, decorative, informational and communicative transformational innovation.

Further research is necessary to determine what techniques to work on these principles can be used in design engineering.

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#### Анотація

*Мараховський А.А. Принципи використання синтезу мистецтв і інновацій при дизайн – проектуванні. При сучасному дизайн – проектуванні використовуються наступні принципи застосування синтезу мистецтв і інновацій при дизайн– проектуванні: системний, декоративний, інформаційно– комунікативний, трансформаційний, інноваційний.*

*Ключові слова: синтез мистецтв, дизайн, інновації, принципи.*

### Аннотация

*Мараховский А.А. Принципы использования синтеза искусств и инноваций при дизайн - проектировании. При современном дизайн - проектировании используются следующие принципы применения синтеза искусств и инноваций при дизайн-проектировании: системный, декоративный, информационно-коммуникативный, трансформационный, инновационный.*

Ключевые слова: синтез искусств, дизайн, инновации, принципы.