

The depletion of the company's initial recoverable reserves at existing fields is estimated at almost 72% in gas, 21% in oil and 63% in condensate. In March 2015, the parliament increased the royalty rate for oil and gas companies, and for UGV it was set at 70% of revenues to ensure the state has sufficient reserves to finance utility subsidies for households following the gas price hike. The increased royalty rate, albeit introduced for plausible reasons, negatively affects the finances and production rate of UGV and, if extended for a long period of time, can lead to a sharp reduction in the production of oil and gas in Ukraine.

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SYNERGETICS OF MANUAL AND COMPUTER GRAPHICS IN VISUAL COMMUNICATIONS

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The visual component of the living environment is one of the priority objects of design creativity. It happens due to the fact that in the process of life a person receives most of the information through visual perception. Creating visual communication objects, the designer uses an arsenal of design tools: from layout to compositional formulation, style formation, conceptual design of the object. The purpose of the design is to provide an environment of human activity with art-shaped information models aimed at the cultural identification of a person. Creating such models, the designer (artist) works with the form, so the processes of shaping in this activity are fundamental. Through design, the designer expresses the basic idea, communicates with the consumer. In the process of searching for methods of shaping in design based on the latest achievements of science and technology, a synergistic approach is becoming actual. It is resulted in giving a form systematic and non-linear nature. Thus, with the problem of applying and combining different types of graphic expression of the form (manual and computer graphics), synergistic effect has become important.

Synergetics originated in the 1970s on the basis of the Theory of Complexity, which is related to the name of the Belgian physicist Illya Prigogin, the theory of catastrophes, founded by mathematician-topologist Rene Tom and theory of Chaos founded by the British physiologist Eduard Lorence. German theoretical physicist Hermann Hacken introduced the concept of synergetics in

his work and considered the possibilities of self-organization in the human sciences, and therefore in design. Scientific theories have gained new quality in the era of high computer technologies of the late nineteenth and early twentieth centuries, and they have provided new opportunities for shaping, including design.

Hacken said that synergetics studies systems that through self-organization can form spatial, temporal, or functional structures [4]. The source of development of such structures is randomness, irreversibility and instability, and the fundamental principle of self-organization is the emergence of a new order and complication of systems due to the random deviations of the states of their elements and subsystems [4]. From a worldwide point of view, synergetics uses a universal theory of evolution to describe the mechanisms of any innovation, so the theory extends to the field of design.

Design differs from other areas of human activities as it contains a significant share of subjective, individual, intuitive, so undoubtedly, the quality of visual communication is primarily determined by the creativity of the author, his talent and taste. But to implement your plan you need to use a variety of techniques. By creating a competitive design of an object, the specialist forms his own unique set of tools and methods of work. Quite often the understanding and application of techniques can prompt a new idea, a non-trivial creative solution. Nowadays, for most designers, computers and imaging software are becoming the most important tools.

Depending on the technology used to create the object of visual communication, the graphics can be manual and computer.

Manual (easel) graphics as a means of shaping the visual image in the objects of visual communications are usually used in special cases, for example, when creating unique projects in the field of graphic design.

Computer graphics is a symbiosis of science, creativity and technology. Due to the fact that the creative component of a designer's professional activity cannot be formalized and in this aspect the efficiency of his work is determined only by the degree of talent, it is possible to radically increase efficiency only by reducing the volume and complexity of routine operations. Computer graphics is the basis on which you can achieve this goal. Using computer graphics programs, a designer can not only materialize their creative ideas faster, but also quickly and efficiently apply new design tools. In particular, when working on font compositions, the use of vector graphics software allows you to create extraordinary and unique effects.

Depending on the principle of image formation, computer graphics are divided into two-dimensional (raster, vector), fractal and three-dimensional [6].

Computer technology allows you to conduct experiments that are designed for unpredictability of the result, as well as to operate unimaginable within Euclidean geometry forms – "solitons", "hypercubes", "self-similar fractals" and others. In the field of application of the synergetic approach to

formation the presence of fractals, very beautiful and infinitely various structures, in modern design is indicative. Fractals are geometric shapes that are self-similar: they consist of several parts, each of which is similar to a whole figure. Self-similarity as the main property of fractals confirms the basic law of aesthetics – the law of unity in diversity. From the point of view of fractal "style", the form is presented as dynamic processes of alternation of order and disorder, space and chaos, linearity and nonlinearity, which are frozen in physical structures [7].

Creating a visual image in the objects of graphic design occurs in several stages, using different technologies. At the same time, it is effective to combine the use of both manual graphics and computer.

When images are created in such a way, nonlinear dynamic systems are combined, the new formation is not equal to the sum of its parts, and forms a system of another level. Synergetics explains the process of shaping in design and, in particular, the creation of objects of visual communication and gives a new image to objects, things, ideas of a complex world.

Objects of graphic design are a set of formative elements of different artistic directions and styles with scientific achievements, high technologies, which gives a qualitatively new development of design, unpredictable (nonlinear) directions of form formation. Form occurs in the process of movement, constantly evolving and changing, while demonstrating the regularity of the processes of formation. Such conscious properties of the object of visual communication as its systemic nature, probabilistic nature of development, dependence on specific, subjective features, application of the principle of additionality, spatial-temporal and subjective-objective unity of perception of the object find correspondence in synergetic picture of the world [7].

The penetration of synergetics into design is a natural process, which is a consequence of the requirements of the era: the need for rapid and high-quality information. Thus, synergetics provides a large number of opportunities for new knowledge, a new form in design using a combination of different scientific theories, advances in technology and unique human capabilities, different methods of expression. Synergetics in the design of visual communication objects provides new methods of shaping, which contribute to the deepening professional knowledge and the formation of a holistic, more objective picture of the world.

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