

# Morphology images of visual-cognitive character of dynamical system information

Vladislav Zhukov<sup>1,\*</sup> and Anastasia Smirnova<sup>1</sup>

<sup>1</sup>Saint Petersburg State University of Industrial Technologies and Design, Saint Petersburg, Russia

**Abstract.** The study of images of bladed-edged weapons, which allowed to design a paryura, was carried out. To create images of design objects – parures represented by visual-symbolic cognitive information dynamic systems (VKIDS) with locally stable structures (LUS) in the development of cognitive technologies of plastic arts and design, the methods of linguistic-combinatorial and tabular modelling were used. RESULTS: the study of morphology, colourists, eidos, and concept in the creation of images of design objects-jewellery associated with the main symbolized elements of state and social policy management, represented by images of sacred, astral cosmogony, and cosmology.

## 1 Introduction

In the theory of design, innovative conclusions are largely made as a result of the analysis, synthesis, research, and comparison of historical sources represented by the plastic arts. A historical source can be any information from the past related to the activities of humanity, which also includes the problems of managing a society that creates a second nature of matter or a semiotic reality.

This means that we constantly have to deal with a variety of semiotic systems, including those that are somehow connected with a separate, special symbolic-sign language representing design, through morphology, colourists, eidos, and the context of the variety of categories of artificial figures, which include tools that include weapons in their cluster from a certain moment, performing a specific function for the power structures of individual groups of people. With a certain historical delay in time, the images of weapons began to carry out symbolic meaning later than all other objects of human use, and, consequently, later than others, they passed into the symbolic system of the subject area of design objects. The creation of weapons was one of the earliest achievements of the material culture of mankind. The history and anthropology of the world show that there are no peoples in it so backward that they do not have artificially created means of defence and attack, as a result, humanity has devoted a significant part of its ingenuity and creative efforts to the development of weapons.

The level of technical development of weapons, and in this study, cold bladed, which has become largely "museum", due to the fact that earlier than others it fell out of use and is now considered as archaic: dictator's bundles, arrows, crossbow, bow, spear, combat

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\* Corresponding author: [lt\\_zhukova@mail.ru](mailto:lt_zhukova@mail.ru)

coinage, shestoper, mace, axe, and sword, which took over the history of mankind as the King of weapons, creator and destroyer at the same time, he "carved history, created peoples and gave shape to the world" [1].

## 2 Materials and methods

To create images of design objects – a ring, a pendant, a tie clip, represented by visual-symbolic cognitive information dynamic systems (VKIDS) with locally stable structures (LUS), the methods of linguistic-combinatorial and tabular modeling were used in the development of cognitive technologies of plastic arts and design.

## 3 Results

The sword, as a type of bladed weapon with a straight blade, is the collective name of all long-bladed weapons with a straight blade, part of the morphology of the image, which is associated with one of the oldest symbols of humanity, accepted by the culture of all peoples and belongs to the so-called sacred, astral signs. It is somewhat difficult to give a strictly unambiguous definition of a sword [2].

The star, as a concept, has long served as a symbol of eternity, and later (since the XVIII century) — a symbol of high aspirations, ideals (which are eternal, imperishable) and since the end of the XVIII century began to be used as a sign of guidance (four-ray star) and adopted mainly by Christianity, in its form is associated with the cross, giving contamination [3] of different-time ideas.

The cross is also one of the oldest symbols of world culture, denoting the unity of opposites. In some versions, the cross is depicted as seven steps, comparable to cosmic trees, symbolizing the seven heavens or synthesizing the seven aspects of space and time, because its shape is such that it can accommodate or destroy free movement. Therefore, the cross is the antithesis of the ouroboros (a coiled serpent or a dragon biting its tail is one of the oldest symbols), denying the primordial anarchic dynamism that precedes the creation of the cosmos and the establishment of order. Accordingly, the cross denotes the primary relationship between the two worlds, the heavenly and the earthly. In accordance with c [4, 5], in some traditions, the cross becomes a symbol of fire and suffering, perhaps that is why two hands are associated with incendiary sticks when primitive man rubbed them to cause fire.

Hundreds of forms of the cross are described in various studies based on the configuration of graphic symbols, which made it possible to explain the special philosophical meaning of each of them. The very shape of such a cross symbolizes the circle of life, as the unity of opposites, the union of active and passive principles. In this you can see a magical knot that binds together the combinations of elements that form a person. From a macrocosmic point of view, the cross represents the sun, the sky, and the earth with a circle, top, and horizontal lines. as a microcosmic sign, it refers to a person, the circle represents the human head or mind (or the "sun" that gives him life), the horizontal line is his hands, and the upper one is his torso.

In general, the most common meaning of the cross is associated with the connection of opposites: positive (or vertical) with negative (or horizontal), higher with lower, life with death. Thus, there is a close sacred connection between the cross and the sword, which dominate the primitive animal.

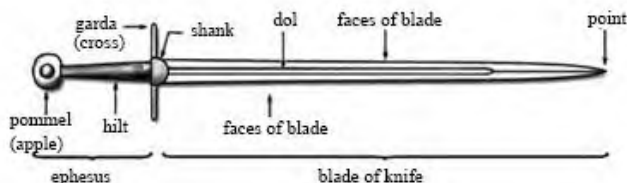
The most characteristic periods for the sword are antiquity and especially the Middle Ages (XII-XV centuries), its morphology of the image was most widespread and developed in Europe just during the creation of a symbolic image, especially characteristic of heraldry

(XI—XIII centuries). Therefore, the sword as the main weapon of the warrior early became a symbol of military supremacy, military leadership, a symbol of military leadership.

It was in this capacity that the sword became already in the XIII—XIV centuries among most European states among the regalia (in Russia — from the middle of the XVII century), state attributes of power, symbolizing the supreme military supremacy of monarchs. The cross-shaped shape of the sword, created by the fact that the crossbar of the hilt separated the handle from the blade, contributed in the then religious Europe to the strengthening of the symbolic prestige of the sword and its transition to the category of material symbols as the real value of this personal weapon fell. Despite the disappearance of the sword as an attribute of state power in republican states, its invisible presence remains to this day in the constitutionally enshrined right of heads of State to be supreme commanders in their countries, even if they are absolutely civilians.

It is noted [6] that in most ancient cultures, the sword is a double of the spinning wheel, the female symbol of the duration of life. Accordingly, the sword and the spinning wheel form an oppositional pair, symbolizing death and fertility, the two opposites that make up the main symbolism of the mountain, and also in the animal world, a similar pair is formed by a phallic fish and a frog. However, the primary symbolic meaning of the sword is related to its ability to inflict wounds and kill, hence its freedom and power. When the sword appears in connection with fire and flame (the fiery sword of the Archangel Michael), it symbolizes purification [7].

The sword consists of the following parts: blade, hilt, pommel and guard (Fig. 1) [8].



**Fig. 1.** The structure of the sword.

As the main type of weapon, the sword was a symbol of war, strength, and power, and as the main tool of "God's judgment" that is, the highest justice and justice. And these are only the most important, generally recognized symbolic meanings of the sword. For many peoples who worshipped its magical power, the sword also meant divine intelligence, insight, power, fire, light, division, or death. The loss of a sword in battle was equivalent to the loss of power, so a broken sword symbolized defeat.

The fiery sword indicates the proximity between the symbols of steel (or iron) and fire. They are united by a "common rhythm" [9]. On the other hand, the sword represents the heat of the flame and the cold of the naked Steel, therefore, the fiery sword is a symbol that carries a dual synthesis, like the volcano (gelat et ardet). The sword also symbolizes the weapon that separated paradise (the abode of divine love) from earth (the world of misery).

In Renaissance visual art, the sword as an attribute is characteristic of a number of figures that allegorically represent human feelings: Courage, Firmness, Anger, Justice, Moderation, and Despair.

In heraldry, the sword emblem can symbolize the highest military authority or justice. The military heraldic sword is usually depicted naked, blade up, except when it is placed in the coat of arms in memory of the fallen, then the sword is pointed at the ground.

In the Middle Ages, there was a real sword cult in Western Europe and Japan. The main weapon of the knight and samurai gradually acquired ritual and ceremonial significance. The symbolic birth of a knight was accompanied at the initiation by three times touching

the sword with the shoulder of the candidate. All the rest of the knight's life was inextricably linked with the sword: in battle, the sword served as a weapon, while on the way, the cross-shaped hilt of the sword stuck in the ground became a symbolic crucifix. The sword was an instrument of justice and an instrument of retribution in the execution of death sentences. Since the XIII—XIV centuries, the sword, as a symbol of the supreme military power of monarchs, became one of the royal, imperial and princely regalia.

The belonging of the "sword-cross-four-ray star" system to the world culture is due to its presence in all compositional styles and genres of plastic arts, and the loss of the utilitarian meaning of the sword did not stop its presence in the forms of images of semiotic reality but determined its existence as a symbol.

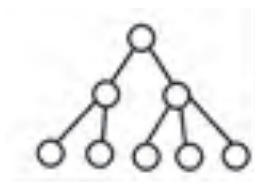
The sword is one of the most complex and most common symbols. On the one hand, the sword is a formidable weapon that carries life or death, on the other hand, it is an ancient and powerful force. The sword is a symbol of power, justice, supreme justice, all-pervading intelligence, insight, light. A broken sword is a defeat. The sword lives in the reality of quite a large number of people as a symbol.

It was in this capacity that the sword became already in the XIII—XIV centuries among most European states among the regalia (in Russia since the middle of the XVII century), state attributes of power, symbolizing the supreme military supremacy of monarchs. The cruciform shape of the sword, created by the fact that the crossbar of the hilt separated the handle from the blade, contributed in the then religious Europe to the strengthening of the symbolic prestige of the sword and its transition to the category of material symbols as the real value of this personal weapon fell. Despite the disappearance of the sword as an attribute of state power in republican states, its invisible presence remains to this day in the constitutionally enshrined right of heads of State to be supreme commanders in their countries, even if they are civilians.

In Christian symbolism, including in the Russian Orthodox, the expression "spiritual sword" means an active eidic position of morality and morality.

The central concept for the sword and cross [10] is the primordial tradition, which expresses the universal cosmic and metaphysical meaning of the universe. In the course of historical development, it expresses itself through various ethnocultural forms. The symbol can serve as an abstract concept, such as a geometric figure, number, letter, or any material object, such as a celestial body, plant, animal, stone or metal, as well as myths, fairy tales, and legends, their heroes and episodes, rites and rituals, the verbal formulation of which would be impossible.

When designing the design object, a semantic network with a hierarchical structure was created (Fig. 2).



**Fig. 2.** The hierarchical structure represented by the semantic network.

In this work, the archetype of the image of paryura was the project "The Sword of Stalingrad" - a gift from King George VI of Great Britain. The style of this sword is typical for weapons of the XV-XVI centuries (Fig. 3).

The parure consists of a ring (Fig. 4), a pendant (Fig. 5), a tie clip (Fig. 6).

The pendant consists of three main elements, namely, a sword, a crown, and a shield.

The image of the sword is used to design the tie clip. The sword and shield are joined by a crown, with the image of heraldic lions. The image of the archetype was the British crown.



**Fig. 3.** The Sword of Stalingrad.



**Fig. 4.** Ring.



**Fig. 5.** Pendant.



**Fig. 6.** Tie Clip.

## 4 Discussion

Today, when immensely increased the flow of historical and political information, when unprecedentedly expanded international relations, when in contact with foreign countries drawn hundreds of thousands of people of non-humanitarian, historical, and socio-political training, found a striking deficiency of the simplest and yet the fundamental knowledge of people about the world and, most importantly, the place of their homeland in the cultural-historical process of the world.

This work is intended to fill this gap in one of the "forgotten" areas — in the field of symbols of cold-bladed weapons.

## 5 Conclusions

As a result of the conducted research, it should be concluded that it is necessary to further develop the theoretical basis for creating artistic images of cold weapons, as a semiotic direction of decorative and applied art and design.

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