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THE GOLDEN RATIO – A MEASURE OF DIVINE BEAUTY CREATED BY NATURE

What are the similarities between the Egyptian pyramids, the paintings by Leonardo da Vinci, a sunflower, a snail, a pine cones and human fingers ? The answer to this question lies in the amazing numbers that were discovered by the famous mathematician of the Middle Ages Leonardo of Pisa, better known as Fibonacci. After his great discovering, the numbers got the scientist's name . Fibonacci sequence is called surprising, because numbers had an unusual feature: each number in this sequence is equal to the sum of the two previous numbers, besides during the division of any number of sequences to a previous one, the same amount 1, 618 is got. That is, this value is the number of the famous golden section, the number φ.

The aim of this paper is to prove that the Golden ratio is the mathematical category, on principle of which natural things are created. The example of the human body can be given.

Why do some people attract our attention, but others don't? What law do we distinguish between these two types of people by? The answer is the same: some people have the proportions that correspond to the golden ratio and visually they are perceived as perfect [2, p.8].

The "Vitruvian Man", that is the famous picture, accompanied by the explanatory inscriptions made by Leonardo da Vinci in about 1490, can be remmembered. It depicts a figure of a naked man in two superimposed positions to the other, with his arms and legs extended sidewards, inscribed in a circle and with his arms extended sidewards and feet together , inscribed in a square. Amplitude of arms sidewards is approximately equal to his height. This picture and the notes are called the canonical proportions [3].

It should be mentioned that the proportions of the various parts of the body are numbered very close to the golden section .If these proportions are consistent with the formula of the golden section, the appearance or the human body is considered perfect.

The first example of the golden section in the structure of the human body is:

If we take a navel point as the center of the human body and the distance between the human foot and a navel point for the unit of measure, the human full-length is equivalent to the number 1.618 [1, p.42].

In addition, there are several major golden proportions of the body:

- the distance from fingertips to the wrist and from the wrist to the elbow;
- the distance from the shoulder level to the top of the head and the head size;
- the distance from the navel point to the crown of the head and from the shoulder level to the top of the head;
- the distance from the navel point to the knees and from the knees to the feet.
  - There is a number of examples in structure features of the human face that are close in meaning to the formula of the golden section:
- the distance from the tip of the chin to the tip of the upper lip and from the tip of the upper lip to the nostril;
- the distance from the tip of the chin to the top of the eyebrows and from the top line of the eyebrows to the top of the head;
- if we summarize the width of the two front upper teeth and divide that sum by the depth of the teeth is to arrive at a number of the golden section, one could argue that the structure of these teeth is perfect.

If you push your palm closer to yourself and look closely at your index finger, you find the formula of the golden section in it. Each finger of our hand has three phalanges. Sum of the first two phalanges in relation to the entire length of the finger gives the number of the golden section (except the thumb). Besides, the ratio between the middle finger and the little finger is also equal to the number of the golden section. We have two hands and the fingers on each hand consist of three phalanges (except the thumb). Each hand has 5 fingers, a total of 10, but with the exception of two phalangeal thumbs. So, only 8 fingers are created on the principle of the golden section. While all the numbers 2, 3, 5 and 8 are the Fibonacci number sequence [4].

So, these are not all examples of correlations in the structure of the human body, where the golden section is used. It can be said that this phenomenon is being studied.

LITERATURE

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