THE METRIC SYSTEM AS A KEY TO UNDERSTANDING THE SYMBOLIC INFORMATION OF THE GIZA PYRAMID COMPLEX

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Abstract

The article attempts to logically recreate the symbolic information of the Giza pyramid complex. First of all, it took into account the presence of a special reasonable goal-setting among representatives of an ancient highly developed civilization. In this regard, it is assumed that the construction of the Giza pyramid complex is due to the value of information about the existence of a habitable planet. To understand the symbols that may indicate a specific star system, pyramid devices have been built, and the unit of length "meter" is indicated as a symbolic designation of distances. Following reasonable arguments, the pyramid builders probably used an intelligent way to find a star system with a habitable planet and provided a means of communication with it. This means of communication is probably based on the principles of radio communication and is intended for use in a different, more advanced technological order. With that said, the Giza Pyramid complex project was probably also conceived as a significant social trigger for modern human society.

1 Introduction

Today, there are many different kinds of alternative official history assumptions about the purpose of the Giza pyramid complex:

– generation of electrical energy;
– "portal" to parallel worlds;
– knowledge repository;
– navigation station;
– energy transformer;
– observatory and the like.

One inconspicuous but very significant circumstance has always been surprising in alternative studies and their conclusions – numerous researchers always make assumptions about the purpose of the pyramids of Giza, without coordinating this idea with the complexity of their reproduction. That is, the importance of the task being solved is not compared with the efforts expended on the construction of structures. And this is a significant logical error of the researcher. However, common sense, therefore, is not all right. For example, why use electricity without electrical appliances? Thus, we get obvious nonsense.

It is assumed that the most optimal way here may be the method of deduction, which involves making conclusions from general premises. For example, if we accept the assumption of the existence of an ancient highly developed civilization in the past (which has not yet been objectively proven using a strictly scientific method), then it is necessary to proceed from the goal-setting of a highly developed civilized person. In this regard, the utilitarian and hedonistic purposes of building the pyramid complex can certainly be excluded.

It is also possible to exclude various "fantastic" theories using the same "fantastic" terminology: if we consider the problem from a scientific point of view, then such a "liberty" is unacceptable.

Scientific methods of modeling and analogy could become quite fruitful methods in analyzing the described phenomenon: let's think – if we personally (civilized representatives of the Human race) got into those conditions of existence of our planet far back in time – a virgin "wild" planet, the absence of any objects of civilization - what would we be directed to in the first place your efforts? Probably, in these conditions, the "civilizers" were doomed to gradual and inevitable degradation – after all, it would have been impossible to establish the production of even the simplest devices for everyday life and the

reproduction of cultural values – books, construction tools, nuts and bolts... – without appropriate industry. In addition, being outside the usual and numerous civilized community, it is not possible to fully preserve the high culture of a developed civilization. So what would our efforts and actions be aimed at in these conditions? Probably for physical survival, partly for the preservation of knowledge, but mainly for the realization of some kind of "mission" (it's no coincidence that the "civilizers" overcame the distance of many light–years to our planet, clearly aware of what awaits them there). One can talk about a certain "mission" abstractly, but the first sound thought that arises is the creation of all possible conditions for the "birth" and systematic development of a new civilization on planet Earth.

Let's fantasize further: in this way, the "civilizers" would do everything possible to "nurture" civilization after many millennia (tens of millennia) and systematically accelerate its development in the right direction. To do this, perhaps, it would be necessary, initially, to establish several centers of development of civilization (probably up to a dozen), to carry out activities for the domestication of animals, the breeding of cultivated plants, the transfer of knowledge about crafts, to lay the foundations of scientific knowledge ... . But it is difficult to imagine the systematic development of the centers of civilization without their coordinated movement, and coordinated movement without means of communication. Of course, the existence of communication technology at that time, similar to the modern Internet technology "Starlink", would have been impossible - this project of communication based on electromagnetic wave radiation is extremely large–scale and technically complex. Obviously, a more "compact", modern and relatively simple communication technology was required. In this regard, it is assumed that the construction of pyramids in the places of the centers of origin, points of growth of the civilization of Mankind were a physical part of this global communication system between the centers, points of the new civilization of the planet Earth. At the same time, the localization of the main control link in the process of the development of human civilization was probably at the site of the Great Pyramids.

Another question is why the Giza pyramid complex was built directly, which is significantly different from similar pyramid structures? If we continue logical reasoning about the activities of civilizers, then we can consider the idea of a possible final stage of their mission – the settlement of advanced Humanity on habitable planets of nearby stars. In any case, without a thorough analysis of all possible facts about the Giza pyramid complex, it is impossible to say anything definite today. In this regard, it is important to analyze and investigate all possible information about the pyramids of the Giza complex based on the use of various scientific methods, for example, methods of formal logic and modeling.

2 The main part

The first argument. Based on the analysis of the geometry of the "King's Chamber" room of the Pyramid of Cheops [1, 2], the distances of two unique right triangles inscribed in the geometry of this room are interpreted. The first is an indication of a measure of length equal to the modern standard measure of length "meter" (triangle from below, Figure 1), the second is an indication of a length derivative of the length "meter" – "royal qubit" equal to $\sqrt{5}+3/10 = 0.523606$ ... m.

The uniqueness of the triangles shown in Figure 1 is based on the following facts. Among the many right–angled triangles in which the values of area and perimeter are equal, there is a one-of-a-kind right-angled triangle in which the numerical values of area, perimeter and the square of the smaller leg coincide (Figure 1). These properties of a triangle inscribed in a room are manifested only in its representation in the metric system. Finding the indicated equality of values for a right-angled triangle with non-integer sides is significantly complicated by the fact that the calculation requires using a transcendental equation rather than an algebraic equation.

Figure 1 also shows another unique right-angled triangle inscribed in the geometry of the room. Its uniqueness lies in the fact that the sides have the ratios of the smallest of the Pythagorean triples among the many existing ones. The unit size for this triangle can be represented as a dimensionless square of the golden ratio (Figure 1). These properties of a triangle inscribed in a room are manifested only in its representation in the metric system.

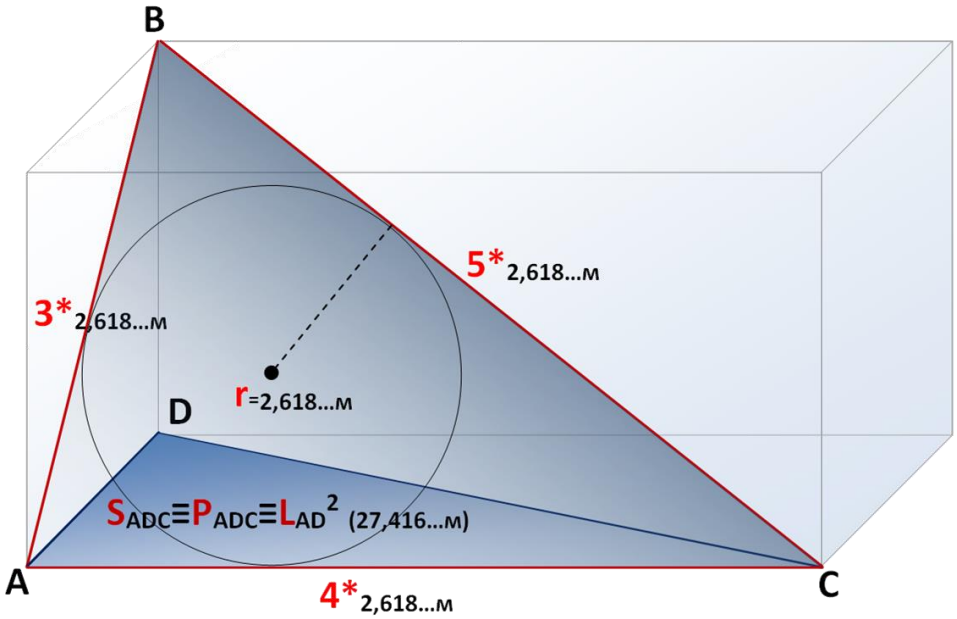

Figure 1 is a schematic representation of the "golden" proportional relations in the geometry of the pyramid of Cheops – the "King's Chamber", where: 2,618 ... is the square of the value of the "golden section" (1,618 ...^{2}), the smaller of the edges (AD) = 2*2,618 ... (5,236 ... m), the height of the figure (DB) = √5*2,618... (5,854...m) [1, 2]

The second argument. The modern unit of length "meter", due to the high accuracy of measuring the speed of light, is still tied to the unit of time, the second, and is equal to 1/299792458 m of the distance that light travels in 1 second. Considering the equator as the exact starting point for measuring latitude, we associate the latitude value of the location of the top of the pyramid of Cheops (29.9792458 degrees north latitude) with the value of the speed of light 299792458 m/s (± 1.2 m/s). If you turn to the Google Maps Internet application and compare the latitude value of the top of the pyramid of Cheops with the speed of light, it turns out that both values coincide [3] (Figure 2).

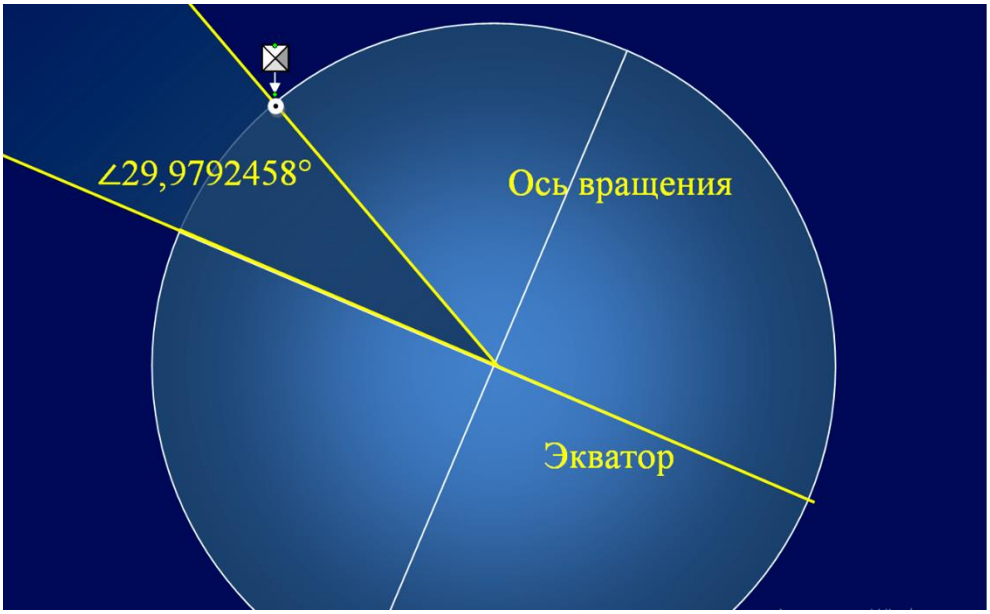

Figure 2 – The angle formed by the projections: the straight line of the equator of the planet Earth and the straight line with the origin from the middle of the axis of rotation of the planet to the location of the top of the pyramid of Cheops

The third argument. The calculation in the metric system of units of the base area and the lateral (visible) surface of the Mykerin pyramid (Menkaura) revealed numerical values almost identical to the 21st and 22nd Fibonacci numbers - 10946 m^2 and 17711 m^2 (the length of the base side is 104.6 m; height is 66.5 m) [4]. The calculation of the base area and the visible surface of the Chephren pyramid also revealed numbers close to the values of the 24th and 25th Fibonacci numbers - 46368 m^2 and 75025 m^2 (base side length - 215.3 m; height – 137.5 m) [4].

Probably, the areas of the Giza pyramids indicated that their builders knew the Fibonacci numbers in two length systems – in the derivative of the "meter" measure – the "Royal qubit" measure (the area of the base (taking into account the cladding + 2 meters) and the visible surface of the pyramid of Cheops are equal to the 27th and 28th Fibonacci numbers (the side of the base is equal to 443,1907... square meters or 232.057665... m, the height of the pyramid is 281.87365... square meters or 147.59... m obtained in the study [5]) and are measures of "meter" (the area of the base and visible surface of the Chephren pyramid is the 24th and 25th Fibonacci numbers and the Mikerin pyramid is the 21st and 22nd-the Fibonacci number) [4]. Thus, a sequential series of Fibonacci numbers with numbers is obtained. 21, 22, –, 24, 25, –, 27, 28. Considering that the Fibonacci series is formed according to the principle "each subsequent number is equal to the sum of the previous two", when we include in this series the values of the total areas of these three pyramids, we get a separate part of the numerical The Fibonacci series is from the 21st to the 29th.

The dimensions of the pyramids recorded today differ slightly from the calculated ones, which can be explained by the loss of cladding and degradation of structures (table).

Table – Linear dimensions of the Giza Pyramid Complex

Pyramids	Fixed dimensions, m			Estimated dimensions, m		
	Length of the sides of the base		Height	Length of the sides of the base		Height
	Side 1, 2	Side 3, 4		Side 1, 2	Side 3, 4	
Cheops	230,45; 230,25	230,36; 230,39	138,75	232,057		147,59
Khafren	210,5	210,5	136,4	215,3		137,5
Menkaure	102,2	104,6	62	104,6		66,5

Interpretation of symbolic information of the Giza pyramid complex. It is known that the average distance from the Earth to the Sun is about 150 million kilometers. This number is constantly changing up and down depending on the position of our planet in relation to the trajectory of its orbital motion (since the orbit of our planet is not round, but in the shape of an ellipse). The minimum distance is observed in January (perigee, 147 million kilometers), and the maximum is in July (aphelion, 152 million kilometers). The height of the pyramid of Cheops should be determined based on the calculation results, taking into account its cladding, when the length of the base side is calculated in the ancient Egyptian unit of length – the Royal Qubit – and is equal to √196418 [5] (196418 – 27 Fibonacci number) = 443.1907... royal qubits. 1 Qubit = √5 +3/10 = 0.523606 ... m. Accordingly, the height of the structure will be equal to √196418/2*√1.61803... = 147.59 meters. In this regard, the height of the pyramid of Cheops can be correlated with the minimum distance of the Earth from the Sun.

In the study [6], we took the monument "The Great Sphinx" as the symbol of the star due to its strict orientation – the head of the sphinx is directed to the east – the place of the rising of the star "The Sun". If we further develop the idea of this analogy, then the pyramids of the complex can be taken as symbols of the planets, and their small forms as their satellites. Considering that the height of the pyramid of Cheops can be correlated with the minimum distance from the Earth to the Sun, the probable distance from the planets to a certain star is calculated in the indicated conventional units of length – 147.59 meters = 1 AU (Figure 3).

The distance from the top of the monument "The Great Sphinx" (Figure 4) to the top of the pyramid was for:

– Cheops ≈ 574 meters / 147.59 meters ≈ 3.89 conventional units;

– Chephren ≈ 675 meters / 147.59 meters ≈ 4.57 conventional units;

– Menkaure ≈ 965 meters / 147.59 meters ≈ 6.54 conventional units (Figure 3) [6].

Thus, the peculiar "map" of the Giza pyramid complex can be interpreted as a symbolic representation of a certain star system. In particular, the pyramid of Cheops can be represented as a sender-receiver planet due to the presence of a large gallery in it. (it is estimated to be at a distance of 3.89 AU from the star) (Figure 3).

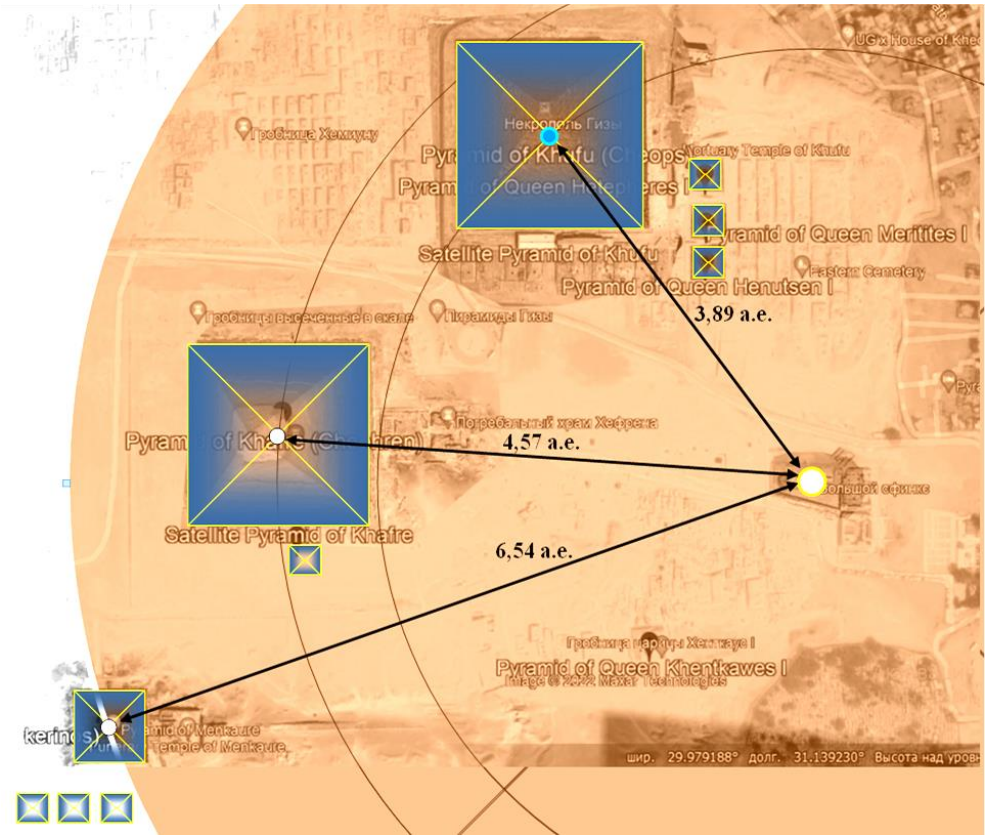

Figure 3 – Schematic representation of the Giza pyramid complex and the Great Sphinx monument – top view, where: in the form of circles on the tops of each of the three pyramids, the designations of the planets and stars are indicated above the head of the Great Sphinx monument; the distances from the head of the Great Sphinx monument to the tops of the pyramids are calculated based on the conditional the units of measure of length are 147.59 meters = 1 AU – the distance from planet Earth to the Sun

Figure 4 – The top of the monument "The Great Sphinx" of the Giza plateau

It is assumed that for the purpose of finding the location of a certain star (for the purpose of sending a message), a certain orientation method is provided in the Giza pyramid complex. The simplest solution in this regard is the orientation of the "gallery–transmitter" in relation to the bright stars. In this regard, "air ducts" can be used as guides to the stars – channels specially designed for this purpose in the body of the pyramid of Cheops. An analysis of the possible directions of these air ducts to stars with large values of apparent magnitudes showed that two air ducts on the northern side of the pyramid are directed to the stars Tuban (a white giant in the constellation Draco, apparent magnitude 3.647) and Kohab (the second brightest star in the constellation Ursa Minor after the Polar Star, apparent magnitude 2.08), and from the south side, to the stars of Alnitak (a star in the constellation of Orion, which is the brightest O–class star, visible magnitude – 1,7) and Sirius (the star of the constellation Canis Major, the brightest star in the night sky, with an apparent magnitude of 1.46) (Figure 5) [6].

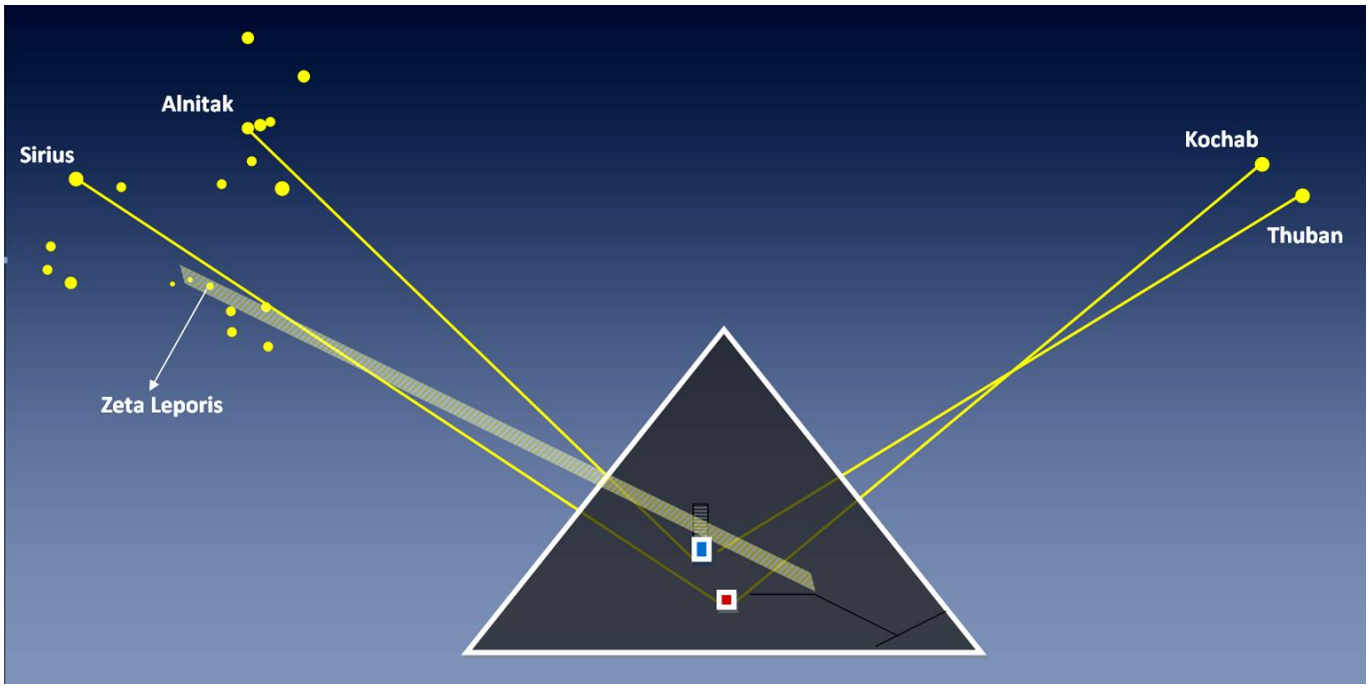

Figure 5 is a schematic representation of the direction of the ducts and the gallery of the pyramid of Cheops, where: the star ζ of the constellation of the Hare is indicated, on the sector of which the pyramid gallery is directed in relation to the directions of the ducts to the bright stars

Based on the analysis of the location of the stars of the sector of the starry sky, to which the large gallery of the pyramid of Cheops is directed, the constellation of the Hare is selected by the selection method. According to formula 1, the conditions for finding a planet in the habitable zone are determined – the luminosity of the star for the nearest planet in this system should not exceed the luminosity of 15 Suns [6].

$$D_{AU}=\sqrt{L_{STAR}/L_{SUN}}, \text{ where:} \quad (1)$$

D_{AU} is the average radius of the habitable zone in astronomical units.;
L_{STAR} is a bolometric indicator (luminosity) of a star;
L_{SUN} is a bolometric indicator (luminosity) The sun.

In this constellation, based on the selection of stars according to their luminosity indicators, the star ζ Leporis (Lat. Zeta Leporis). If there is an Earth-like planet suitable for biological life in the Hare star system, then it should be located at a distance of 3.9 AU (Figure 6).

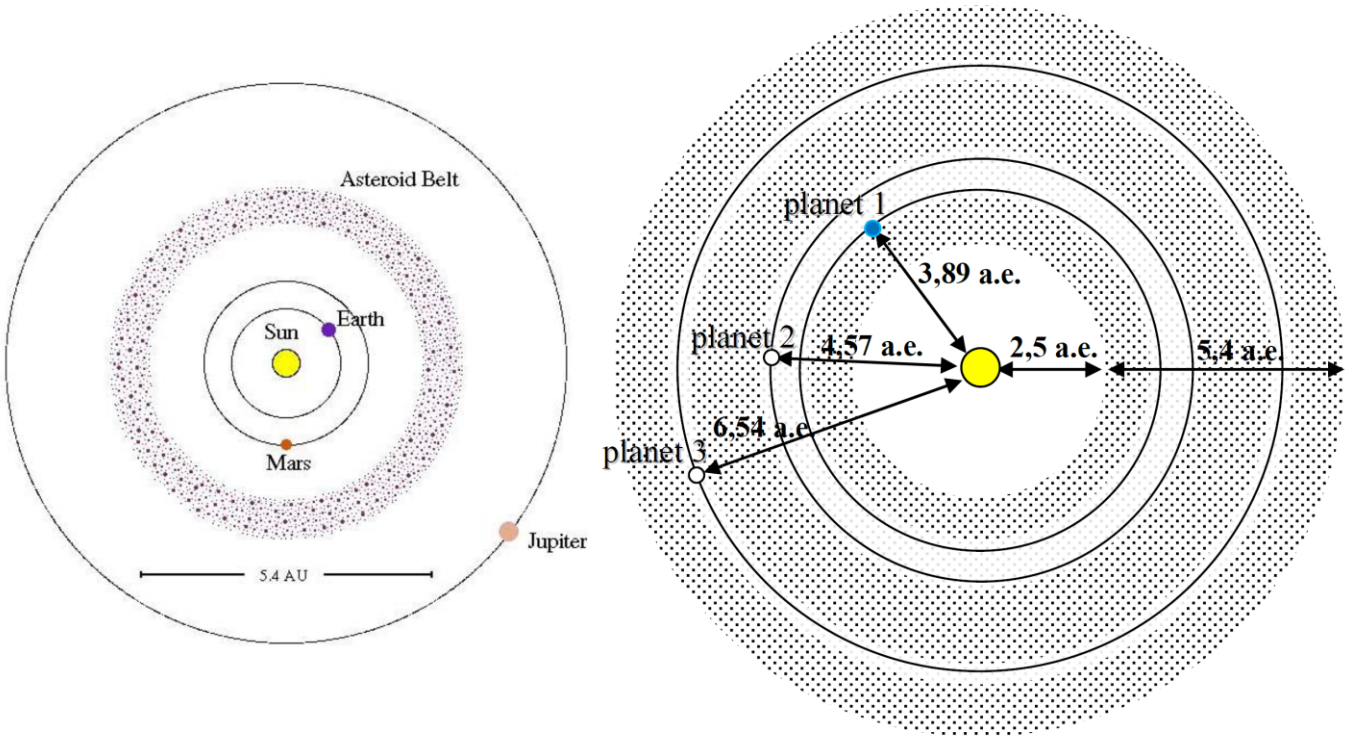

Figure 6 is a schematic representation of the asteroid belt of two models of systems – the solar system (left) and the proposed Zeta Hare star system (right), where: planet 1, planet 2, planet 3 are the proposed planets of the Zeta Hare star

The distance from the upper part of the monument "The Great Sphinx" (Figure 4) to the upper part of the pyramid of Cheops was 3.89 conventional units, which coincides with the calculated data on the possible habitable zone of the star ζ Leporis [6].

3 Conclusion

1. The article attempts to logically recreate the symbolic information of the Giza pyramid complex. First of all, it took into account the presence of a special reasonable goal-setting among representatives of an ancient highly developed civilization. In this regard, it is assumed that the construction of the Giza pyramid complex is due to the value of information about the existence of a habitable planet.

2. To understand the symbols that may indicate a specific star system, pyramid devices have been built, and the unit of length "meter" is indicated as a symbolic designation of distances. Following reasonable arguments, the pyramid builders probably used an intelligent way to find a star system with a habitable planet and provided a means of communication with it.

3. This means of communication is probably based on the principles of radio communication and is intended for use in a different, more advanced technological order. With that said, the Giza Pyramid complex project was probably also conceived as a significant social trigger for modern human society.

P.S. The calculations mentioned in the article may have certain errors. In the article, the author makes an attempt, first of all, to show the logic, the idea of the pyramid builders from the perspective of common sense, the goal-setting of representatives of an ancient highly developed civilization. The results of this study can be useful as a working hypothesis that contains specific suggestions for its verification with a prediction of possible results.

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