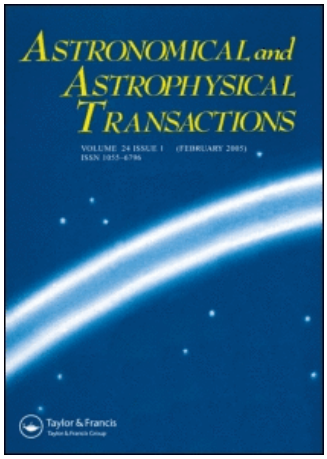

Astronomical & Astrophysical Transactions
The Journal of the Eurasian Astronomical Society
Publication details, including instructions for authors and subscription information:
http://www.informaworld.com/smpp/title~content=t713453505

The SETI problem and some questions concerning research into archaic civilizations

E. N. Kaurov [a]
[a] Euro-Asian Astronomical Society, Moscow, Russia

Online Publication Date: 01 August 1999
To cite this Article: Kaurov, E. N. (1999) 'The SETI problem and some questions concerning research into archaic civilizations', Astronomical & Astrophysical Transactions, 18:1, 309 - 314
To link to this article: DOI: 10.1080/10556799908203071
URL: http://dx.doi.org/10.1080/10556799908203071

Astronomical and Astrophysical Transactions, 1999, Vol. 18, pp. 309–314
Reprints available directly from the publisher
Photocopying permitted by license only

Extragalactic Life

THE SETI PROBLEM AND SOME QUESTIONS CONCERNING RESEARCH INTO ARCHAIC CIVILIZATIONS

E. N. KAUROV

Euro–Asian Astronomical Society, Moscow, Russia

(Received January 16, 1997)

The parallel history of the development of the SETI problem and archaeoastronomy is researched. Some common problems of these disciplines are analysed. The important role of a forecast of I. S. Shklovsky is noted.

KEY WORDS SETI problem, archaeoastronomy

When discussing with N. S. Kardashev the question about where the site of the future conference on the SETI problem should be take place, I. S. Shklovsky said (Shklovsky, 1987): "Such an unusual conference is to be provided just here, in front of the dazzling beauty of the snow peak of Ararat, by the ancient stones of Armenia, which are the witnesses of past civilizations".

That was 1963. The SETI problem in Russia was just beginning to be researched and at the same time the British astronomer G. Hawkins completed the first part of his work, devoted to Stonehenge. This work stimuleted the development of archaeoastronomy, which began a new area of research of the boundary between the humanities, and natural sciences. In any event specialists from the humanitaries (particularly historians) also took part in the research of the SETI problem, because this problem was a complex problem like the problems of archaeoastronomy.

Historians, linguists and other humanities scholar took part in Tallin's symposium (1981), in Zelenchuk's schoolseminar on the SETI problem (1975), and in the second Buracan conference (1971).

But the participation of these specialists was as a rule very fragmentary. The greatest participation of non-astronomers was in Tallin's symposium (1981), but this event was not viewed positively by all astronomers. Perhaps, it was because cooperation between astronomers and humanities scholars was more successful in areas other than the SETI problem, particularly in archaeoastronomy. But the first step in cooperation was not immediately made in this area. Hawkins' conclusion about the astronomical context of the neolithic-bronze sanctuary (1700 BC)

of Stonehenge was not well received at first by British archaeologists. Finally, with the help of the famous astronomer Fred Hoyle, this situation was corrected and cooperation between scientists, of different disciplines, began to develop. Recently some results have emerged in this research which, being connected with problems of antiquity, would perhaps be of interest to specialists, of SETI too.

First of all, it should be noted that at the beginning of his research into Stonehenge, G. Hawkins discovered certain new historical facts, which he especially noted; he wrote the following:

> During the last two years I made up little by little the following approximate hypothesis.
>
> If I can catch a conformity in a general interconnection or functions of various parts of Stonehenge, then, you see, its creators should have known of these facts. Following this hypothesis I went wild ways indeed. After the event it appears to me as a conservative hypothesis, because it is based on an assumption that the builders of Stonehenge were like me, but no more clever that me. But many facts, such as, for inctance, the 56-year eclipse cycle were known neither to me nor to other astronomers, but were found (being said more correctly "discovered again") as the solution of a Stonehenge puzzle.

And after this sentence questioning himself, if Stonehenge was used as an original computing stone device for forecasting eclipses and other calendar calculations, Hawkins wrote, answering this guestion:

> "Scepticism may be propagated by other researchers, working in the region of ancient culture. Can it be really truth, that we have to see the sign of lips on the beaker or blood on the dagger, or sparks, flying from under the flint; striking at the steel, to believe that all of these items were really used?"

The Hawkins guestion reflects a very real situation, which takes place now in histories (particularly in archaeology and the history of the ancient world) by interpretation of some new facts and conceptions, connected with an achievement of the modern level of historical research.

The astronomers researching the problems of archaeoastronomy did not avoid this contradictory situation; moreover in a sense they stimulated the development of this situation. For instance, it concerned the problem of the origin of the Zodiacal constellations (see *Journal of Ancient History*, **1**, 1995). As a result the situation now becomes clear about the original ancient technique. Being original but complex it is apparently of older origin than was thought earlier. The surviving ancient monuments, such as the pyramids of Egypt or Stonehenge, indicate the level of building engineering knowledge of antiquity. This was not like modern building technology; the ancient techniques would be difficult to repeat by means of modern technology. But though the ancient methods were very different from modern ones, they could give many good results even by modern estimates. For example, the old Russian icon-painters would to paint the inner spherical surface of the cupola of a cathedral, first marking out this surface with the help of a coordinate-net, which

reflects a projection of the rectangle coordinate system onto the spherical surface of the cupola (Gurshtein, 1983). In this way they did not use any computing devices, but, as we now say, they used an analogue method.

G. Wood gave some more example of using original technical methods by the building of the pyramids, when the ancient Egyptian builders used to smooth the ground surface for the pyramids by means of the drying-up of water, which was first poured on the surface. The resulting surface came out as good as it could made even by using modern building engeneering methods (Gurshtein, 1983). Apparently, these facilities of the ancient specialists referred to many other methods of ancient science and technology.

In any case, there are some other facts of this kind, for example, concerning the highly developed techniques of the ancient Chinese civilization (Suharchuk, 1994). This problem depends directly on our understanding of the expenditure of such great labour for the building of the ancient works and of the real purpose for which they were built. This problem could be understood, taking into account that these ancient megalithic buildings probably had a highly religious value in antiquity corresponding to the labour spent by the builders .

This means that the system of religious values of the ancient civilisations was, perhaps, very different from our contemporary ideas.

Indirect confirmation of this statement is offered by the different systems of world outlook in ancient times and the different ways of expression of this system compared with the modern system. This aspect was strongly discussed at the session entitled *Zodiacal History in the History of culture* (*Journal of Ancient History*, **1**, 1995), in which astronomers, historians of astronomy, historians of the ancient world, archaeologists, culturelogists, and other specialists took part, studying the problems of archaeoastronomy (Kaurov, Raevsky, 1997).

In the overview of that session (Raevsky, 1995) it was noted that, at first, in syncretic cultures of antiquity astronomical ideas (like any ideas, of such cultures) did not exist in isolation and did not make up astronomical knowledge, but penetrated into many aspects of existence and combined, by interchanging ideas with other aspects of their notion of the world, limited by a completely mythological picture.

In this connection the established facts of existing verbal tradition are very important obstacles, which connect with a translation just of symbols (images). This tradition is an integral and important part of an archaic culture. For instance, there is a verbal translation of the Talmud in the epoch of 1 BC till AD 3 (Steinzalz, 1993), when a writing tradition had existed for a long time, and also the fact, marked by the research into *Avesta* and other zoroastric texts (Meitarchian, 1996).

So, in the last case it was established that ancient Iranians considered that the written form was an invention of the Bad Tempered Spirit (Anchra Manju) and writing was considered unsuitable to translate the sacred texts. These texts were translated in the form of the verbal tradition and the sentences of Zaratushtra were written a thousand years after he made these speeches.

Apparently it may be said that archaic societies, when they disappeared, did not use principally any new cultural traditions of the birth of the new non-sincretical society.

Moreover, it illustrate, probably, that there is here not only an antagonism between the new and old cultures, but evidently the complete absence of interaction of the new and old civilizations, which belonged to different types of civilizations, isolated each other. This statement may be explained by means, of a situation connected with the evaluation of the palaeolithic culture as the culture of an archaic civilization.

It concerns an estimate of the intelligence of palaeolith observers of the shy.

The above-mentioned estimate of the creators of Stonehenge may be thought of as a basic one. There is the generalization of this estimate given by Gurshtein (1983): "In the region of archaeoastronomy we should refuse the standard way of thought. We must understand, comprehend and recreate the real way of thought of our far-away ansestors."

However in reality there is not much progress in this idea yet. For example, the following point of view (Larichev, 1994) became an almost general scepticism:

> If we continue to imagine the hunter and the pick-man of the ice age as an intelligent primitive and a spiritualless creature who did not have the ability to create a conception of the world-outlook then we cannot hope in the next few decades to achieve a principally new level of cognition of the art of the palaeolith.
>
> The present adepts of the slightly modernized theory of "die Urdummheit" - "of the primary race stupidity" – of our ancestors continue to place the main position in the archaeology of the palaeolith. As creators of this archaeology, they are probably martially impatient with other intelligent men. The shy attempts of K. Absolov, A. Marshak and B. A. Frolov to confirm (in the development of ideas, which were made earlier by Boushe de Pert, E. Larte, M. Fervorne, M. Boduen, K. Hentze, and F. Bourdue) the ability of palaeolitic man to calculate, the possibility of this man to record time and also his attention to the sky, to the luminaries and to the cosmos on the whole, were ignored.
>
> The so-called sign records are lines, which are grouped in a certain way, and notches or holes a different form. They form, in some opinions, the elements of a decoration ornament design; in other opinions, they are strongly selected blocks made up of a number of signs and these blocks can be interpreted.
>
> The perception of these blocks as a certain kind of text in cipher form containing exceptional information according to its value permit us to use the strong postulate of A. Leroua–Gouran: by semantic estimates of the images of the art of the palaeolith we can proceed first of all from what is a result of researching the object itself, but we do not make a conclusion at once about the ethnographic or other analogies first appearing in an examination of that object.

It should be added that in ancient civilizations there existed other stimuli to the development of astronomy: the necessity of taking one's bearings in migrations or the necessity to regulate agricultural works.

The point of view exists among astronomers (and geophysicists) (Vladimirsky and Kislovsky, 1989), regarding the use of non-astronomical systems of orientation in ancient society. By the way, this fact is confirmed by modern archaeological researches of the ancient settelments of the forest and forest-steppe zones of Russia. Interest in astronomical observations arose apparently before the beginning of a productive economy, i.e. it was not connected with the regulation of agriculture.

It is not impossible that the statement concerning the influence of cosmic factors on biological phenomena (including the organism of man) has a direct relation to the problem which is of interest to us, and some progress was achieved in research into this statement. Without entering into details, it may be noted that there are some reasons to suppose there was a greater influence of solar activity and other cosmic factors on natural ecological systems, and consequently in the practice of the natural economy, existing at the time, which precedes the golden age of megalithic astronomy (particularly of the building of observatories–sanctuaries of the Stonehenge-type).

The importance of calendar-keeping in the epoch beginning from about seven thousands years ago, when social activity, stimulated by more intensive cosmic factors than at present, was showed by the building of the megalithic sanctuaries-observatories, also illustrates other important facts. So, for example, the hypothesis was advanced in archaeology (Shilov, 1992) that man's sacrifices at that epoch may be interpreted as a kind of calendar rituality, connected with the society's institute of "the cosmic wanderers". This institute was provided also for a specific kind of ritual art, which is sometimes interpreted now as the phenomenon connected with the UFO theme.

Summing up the results of the analysis of all of these problems, it may be said that the principal archievement realized recently in the research of ancient civilisations, is that archaeology, the history of the ancient world and other humanities, researching of specific concrete problems, according to the accumulation of different facts, have given way to problem of methodology. In this case, according to their usual methods they often ran into trouble in interpreting the different facts, concerning the archaic detail of the ancient civilizations.

This process has the character of a trend. However one idea is becoming more and more common: that the beginning of our civilization when it interacted with so-called "archaic societies", was really nothing other than a transition period, having the character of a break with the preceding civilisations of a different type. These disappearing civilizations had a different natural enviroment, a different way of perceiving the space of their inhabitancy and different ways of reflecting on this perception in their world-outlook.

But this does not mean that it had a high level of productive forces. The question is only to what extent they were different civilizations. In these conditions the methodological bases of the SETI problem, freer from the different prejudices of the present way of thought, could work in favour of the research into ancient civilizations.

On the other hand, the work of humanities scholars could be given a concrete base of facts for research into the SETI problem.

Returning to the character, given by I. S. Shklovsky to Bjuracan, of the place which causes an intuitive-emotional association between the SETI problem (in this case, probably, subconciously associated by I. S. Shklovsky with the cosmic beauty of Ararat) and the problems of ancient civilizations, it should be noted that by means of intution I. S. Shklovsky was as usual far ahead of the notion of cooperation, which was then prevalent concerning two very separate problems at that time.

This fact gives the opportunity to suppose that Shklovsky's intutive perception of former civilizations not as preceded, but as alternative, was one of the former motives for the formulation by I. S. Shklovsky of his last hypothesis in the SETI problem.

This was the hypothesis about the uniqueness of terrestrial civilization and its inevitable finale.

References

Gurshtein, A. A. (1983) IAI, XVI (in Russian).
Kaurov, E. N., Raevsky, D. S. (1997) *Astron. Astrophys. Trans.* **12**, 333.
Larichev, W. E. (1994) Drevnie Kulturi Juznoi Subiri i Severo-Vostochnogo Kitaja, Nauka, Novosibirsk, p. 9 (in Russian).
Meitarchian, M. B. (1996) Drevnost: Istoricheskoe Znanie i Spezifica Istochnika, Moscow, p. 87 (in Russian).
Raevsky, D. S. (1995) *Journal of Ancient History*, No. 1, p. 193 (in Russian).
Shilov, Ju. A. (1992) IAI, XXIII, p. 272.
Shklovsky, I. S. (1987) Vselennaja, Jizn, Razum, Nauka, Moscow, (in Russian).
Steinzalz, R. A. (1993) Vvedenie v Talmud, Moscow–Jerusalem (in Russian).
Suharchuk, G. D. (1994) OGK, Moscow, p. 217 (in Russian).
Vladimirsky, B. M. and Kislovsky, L. D. (1989) Archaeoastronomy v Istorii Kulturi, Znanie, Moscow.