

ANCIENT SKIES

"Come Search With Us!"

Official Logbook of the Ancient Astronaut Society

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VOLUME 12, NUMBER 4 1921 ST. JOHNS AVE., HIGHLAND PARK, ILLINOIS 60035 USA SEPTEMBER-OCTOBER, 1985

ATMOSPHERIC CHANGES ON VENUS?

BY DR. STUART W. GREENWOOD*

In this note, we offer apparent evidence to support the hypothesis that the atmosphere of Venus changed in the past from Earth-like to its present heavy and inhospitable state.

The Moon and nearer planets are visible to the naked eye on Earth because of the sunlight reflected from their surfaces and (in the case of some of the planets) from their atmospheres and clouds. The planet Venus, in particular, is a brilliant object when it is visible in the morning or evening sky, due in part to its possessing a highly reflective cloud-containing atmosphere.

Venus orbits the Sun inside the orbit of the Earth and, as viewed from the Earth, it appears in the morning sky (as a "Morning Star") prior to the rising of the Sun over an interval of 263 days. It then moves round the back of the Sun in the region of Superior Conjunction and is invisible in the Sun's glare for a period of about 50 days. It may then be viewed after sunset (as an "Evening Star") for a further period of 263 days, after which it is lost in the Sun's glare during an interval of about 8 days in the vicinity of Inferior Conjunction when Venus is closest to Earth. The total of these intervals is 584 days, the period of one complete revolution of Venus with respect to the Earth, termed the Synodic Period of Venus.

It has long been a puzzle to historians of astronomy that the Maya recorded the period of invisibility of Venus when passing behind the Sun as being significantly longer than that perceived today. The intervals given for the periods of visibility and invisibility in the Mayan Dresden and Borgia Codices are presented in the accompanying Table I.

A further puzzle arises from the differences in the recorded durations of the periods of visibility as Morning and Evening Star respectively - the durations could, in principle, be expected to be identical. The period of invisibility around Inferior Conjunction is too short for small variations to be subjected to analytical treatment.

Why did the Maya record significantly longer intervals of invisibility for Venus around the time of Superior Conjunction than we do today? Aveni observes that the Maya were careful and exacting timekeepers, and suggests that there may have been ritualistic reasons for their records which over-rode the observations. We offer here an alternative explanation based upon physical considerations. Mod-

ern measurements of the albedo (reflective power) of Venus for the reflection of solar radiation give a value of 1.82 times that of the Earth - in other words, Venus has nearly twice the reflecting capability of Earth at solar radiation conditions. If Venus had an Earth-like atmosphere in earlier times, it would have reflected less light than it does today, and in consequence the periods of invisibility against the glare of the Sun would have been longer than they are today. We here suggest that the Mayan Codices preserve on record the periods of invisibility of a Venus that once possessed an Earth-like atmosphere that has since deteriorated to its present state. We have previously offered this view of the recent history of Venus in the context of the ancient astronaut hypothesis, and suggest that the Mayan records are supportive of this interpretation.

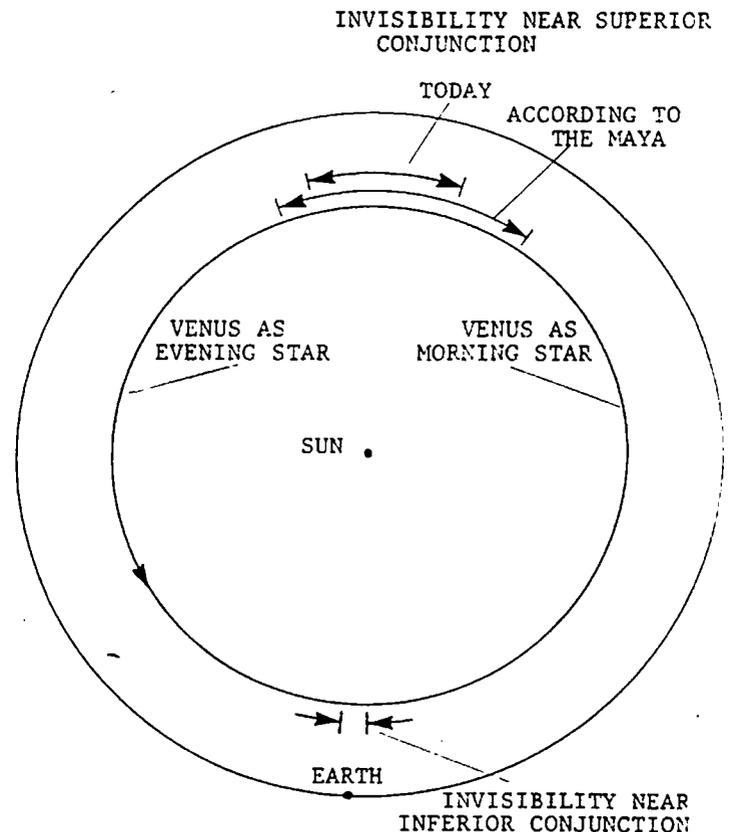


FIGURE I. PERIODS OF VISIBILITY AND INVISIBILITY OF VENUS AS VIEWED FROM EARTH. (Mayan intervals are taken from the Dresden Codex.)

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TABLE I. DIVISION OF SYNODIC PERIOD OF VENUS INTO INTERVALS (IN DAYS) OF VISIBILITY AND INVISIBILITY

	ACCORDING TO MAYAN CODICES		
	TODAY	DRESDEN	BORGIA
Visibility as Morning Star	263	236	243
Invisibility at Superior Conjunction	50	90	77
Visibility as Evening Star	263	250	252
Invisibility at Inferior Conjunction	<u>8</u>	<u>8</u>	<u>12</u>
TOTALS	584	584	584

Note: Data from the Dresden Codex are taken from References 1 and 2 and data from the Borgia Codex are abstracted from Reference 3.

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ARE SOME SCIENTISTS EXTRATERRESTRIALS?

BY GEORGE T. SASSOON*

In recent years, it has become possible for career scientists to talk openly about the possibility of extraterrestrial life. A wide range of opinions on the subject is to be found among them, but the general consensus is as follows:

1. Other technical civilizations besides our own must exist in this galaxy, but they will be too far away for direct contact.
2. Once a civilization develops space travel, the galaxy will be fully colonized within a few million years by wandering O'Neill-type space stations.
3. We find no evidence of the existence of these, and therefore statement 1 above must be wrong and we are in fact alone.

A point which has not been appreciated, however, is that we may in fact ourselves be extraterrestrials, a lost colony or the survivors of a shipwreck. Supposing this is the case, what would be likely to happen if we were rediscovered by the mainstream galactic culture? Our spacefaring cousins would find us reduced to stone-age living, but nonetheless surviving; what would be their best course of action?

Our own experience has shown that for a primitive culture, contact with a technically-superior one can be disastrous. The local culture disintegrates, and the local people never become full members of the superior one. One African tribe is believed to have committed race suicide - they simply stopped having children - when confronted with Euro-American civilization. The emergence of cargo cults is common. Belatedly, we have realized that the best thing to do with "primitive" cultures is to leave them alone if at all possible.

If we have arrived at this conclusion, how much more likely is it then that our superior galactic cousins have done the same thing? Open contact with them would cause earthly civilization to collapse, and we would spend all our time lying about and

dreaming of the galactic equivalents of transistor radios, Cadillacs, Coca Cola and trade gin, or may be even worse. The best course of action would be for the extraterrestrials to place us in quarantine, while at the same time encouraging our development by undercover means.

Supposing we are genetically related to these beings, then they would not be too different in appearance from ourselves, and it would be easy for them to place secret agents in our midst. Their mission would be not only to encourage social and technical development by subtle means, but also to propagate the belief that we are the one and only civilization in the galaxy. These agents would use not only technical means for fabricating evidence, but also mind-control techniques at present unknown to us.

On the other hand, to stimulate our curiosity they might well also leave a few question-marks lying around. Many UFO events give the appearance of being carefully stage-managed by some Earth-based agency with superior technology at its disposal. Could these be an example? Perhaps the ultimate aim is to prepare us for full contact.

Far-fetched though this idea may be, it does resolve the paradox inherent in statements 1 and 3 above. Maybe the extraterrestrials are taking an interest in us, but we should not rely on them too heavily. They want us to do it ourselves. Many of our legends seem to describe past visits by extraterrestrials, and if the legends are to be believed the results were usually disastrous. Perhaps they have learned from these mistakes, and have now adopted a hands-off policy. This could account for the apparent lack of overt visits during the last few thousand years.

Whatever the truth may be in this matter, we in the Ancient Astronaut Society will continue searching for evidence of past visits. And whenever I hear that a highly-placed scientist has suddenly changed his views overnight, I shall suspect that he has been replaced by an alien clone!

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AFTER THE CONFERENCE IN ZURICH, we visited Bern, and then spent a night near Lausanne before crossing into France, where we headed up into the Auvergne, a rough mountainous district in the centre of the country. Here, the object was to visit Glozel, a village near Vichy where some controversial archaeological finds were made in the 1920's. These were widely dismissed at the time as forgeries, mainly because the farmer who made the find refused to kowtow to the scientists (so-called) and also because the finds belong to no previously-known prehistoric culture. There are clay tablets with writing on them. The script consists of about 100 symbols, a syllabary but undoubtedly writing, and since we all know that writing was invented in Mesopotamia around 5,000 BC there cannot possibly exist any evidence that people were writing in France in 10,000 BC, or whenever. So it was claimed that the farmer had forged the objects - more than 3,000 of them - and buried them especially to fool the archaeologists!

We went to Glozel and met the farmer, now a very spry 78 year-old, and from his personality I found it unthinkable that he could have carried out a forgery on this scale, or been party to one. Apart from anything else, he hadn't the facilities. Anyway, recently the antiquity of the objects has been confirmed by thermoluminescence dating, but nonetheless nobody takes much interest in the material. This provides some excellent examples of the idiotic behavior of some scientists. The farmer, Emile Fradin, has all the tablets in a barn in showcases; just a typical local farmer. George T. Sassoon.

BEYOND THE SIRIUS LORE

BY DR. VLADIMIR V. RUBTSOV*

According to the Dogon esoteric mythology, Sirius (alpha Canis Major) is a triple stellar system consisting of the stars Sigi tolo (our Sirius A), Po tolo (Sirius B, a white dwarf) and Emme ya tolo (the hypothetical Sirius C, yet to be discovered)(1). The Dogon say that the star Po exploded "in the first year of the people's life on the Earth" and that its brightness decreased slowly during 240 years until it completely faded. It is assumed that these data (as well as other astronomical information possessed by the Dogon tribe of the West African Republic of Mali) were brought to Earth by cosmic visitors.(2)

It is generally known that interstellar flights at almost the velocity of light, "c", require enormous energy. For example, to speed up a 1,000 ton object to $v=0.9999c$, it would be necessary to expend 10^{32} ergs, while to launch a similar object into outer space only 10^{20} ergs are required. Researchers widely use the classification of hypothetical Extraterrestrial (ET) civilizations proposed by N.S. Kardashev of the USSR Academy of Sciences: Type 1 (similar to the terrestrial one) - energy harnessed: 4×10^{19} ergs per second; Type 2 - capable of harnessing the total energy radiated by its central star (some 4×10^{33} ergs per second); and Type 3 - capable of harnessing the energy that is equivalent to the output of the Galaxy (some 4×10^{44} ergs per second). It is evident that our terrestrial civilization might produce the energy sufficient to launch a 1,000 ton interstellar probe within not less than 80,000 years. Otherwise, "real" interstellar flights (at relativistic speeds) is hardly what we can dream of. On the contrary, for a civilization of Type 2 or Type 3, the power expenditure on such flights would be negligible.

Great power resources not only facilitate interstellar flights, but also enable astroengineering activities, that is, transformation of stars and galaxies for the benefit of cosmic civilizations. On this assumption, the "evolutionary" concept of the search for extraterrestrial intelligence is based. According to this concept, proposed by N.S. Kardashev, it is necessary to look for ET civilizations among "the most powerful...known sources of radiation in the Universe."(3) The Soviet scientist, Dr. V.V. Ivanov, has recently supposed that there was some relation between the rise of the homo sapien species and the explosion of a Supernova some 50,000 years ago approximately 30 parsecs away from the Sun. Dr. Ivanov believes that the artificiality of this Supernova is not improbable.(4)

Let us now return to the Sirius system. Its history is rather obscure. It is known that a white dwarf arises from a red giant as this loses its mass. This process is accompanied by ejection of a planetary nebula which eventually dissipates in space. The course of events in multiple systems may be more complicated because of possible mass exchange between the components. Thus, Sirius B was once a red giant whose mass exceeded that of Sirius A (that is why the former evolved more rapidly). But when did Sirius B become a white dwarf?

The astrophysical data suggest that the lifetime of Sirius B as a white dwarf has been 30 to 100 million years, if not overestimated. The initial orbit of the first satellite of Sirius A was, most likely, circular; now it is a very elongated ellipse. It suggests that the mass loss was accompanied by some considerable perturbations. Whether the "lost" matter was dissipated into space, or it was captured by Sirius A, also depended on the initial parameters of the orbit. The situation becomes even more involved if we assume the presence of the second satellite in this system, as is asserted by the Dogon and confirmed by recent astronomical research.(5)

The historical evidence is equally uncertain, but there are some grounds to assume that 2,000 years

ago or so Sirius looked not white-bluish, as now, but red.(6) However, this alone does not mean that Sirius B still was then a red giant. This could be no more than a temporary reddening of the star due to certain instabilities in its outer envelope (what is known as a pseudo-red giant phase).(7)

R.K.G. Temple in his work (2) supposes that the astronomical lore of the Dogon was borrowed from an ancient tradition common to all Mediterranean civilizations some five or six thousand years ago. I had some doubt concerning this conclusion, but here is an interesting fact that seems to support it. The ancient Iranian name of Sirius - Tistrya - goes back to the Sanscrit term Tri-stri (three stars) and to an older Indo-European one of the same meaning. B.G. Tilak, who first proposed this etymological explanation (now generally accepted by the specialists)(8) could not understand its sense and therefore hesitated over the meaning of the word "Tistrya;" whether it meant really the "Belt of Orion," rather than Sirius. However, nothing proves this *ad hoc* conjecture. On the other hand, the name "three stars" is quite justified in terms of the Dogon concept of this stellar system. It is extremely significant that Sirius was also called "Tristryeni," which means, "many stars or a group of stars," as well as "Pauryeni" - "the first" (apparently this implied Sirius A, which is actually seen with the naked eye).

But the most common name for Sirius in the ancient world was "The Dog." The worship of the dog-wolf was widespread in the Indo-European world. For example, the motif of the fight against the dragon in the Slavonic mythology grew out of an older motif of the hero-blacksmith, fighting and finally chaining up a monstrous dog. Dr. V.V. Ivanov, having analyzed this myth, paid attention to its "heavenly" aspect: "Over the whole territory of Eurasia, this mythological complex is associated both with the Great Bear..., with a star near it as a dog which is dangerous for the Universe, and also with blacksmiths..."(9)

The great importance of the blacksmith in the Dogon mythology is well known; and though Sirius is far from the Great Bear in the firmament, it belongs to the same star-cluster.

Thus, it is likely that the myth about the sky dog, dangerous for the Great Bear and for the Universe as a whole, that was chained up by sacred blacksmiths, is based on a certain event in the history of the Sirius (Dog Star) system. My idea is that it might be an artificial, astroengineering intervention of a cosmic supercivilization into the evolution of this system aimed, apparently, at preventing an explosion of Sirius B as a Supernova. During mass ejection from the red giant, its remaining core might preserve a mass exceeding the Chandrasekhar limit (1.2-1.4 Sun masses). But this would inevitably lead to disastrous self-compression of the core and its explosion as a Supernova. As a result, powerful streams of matter and radiation would be ejected into the surrounding space.(10)

Explosion of a Supernova at such a small (on the cosmic scale) distance from the Solar system might be fatal for the terrestrial biosphere. This danger could be prevented by removing the excess of the stellar matter from Sirius B. The 240 years of increased brightness of the star looks indeed like a slow discharging of this "cosmic mine." Was it discharged completely? Who knows...the myth tells us that the blacksmiths only chained up the Dog, but it does not mean they rendered it quite harmless.

To verify the hypothesis of this extraterrestrial intervention into the evolution of the stars for the sake of our civilization's survival (and possibly for some other purpose?), it would be necessary to study in detail the Sirius system and search for astroengineering structures there. This could be done, for example, by radio interferometers with a very long base (3). Apparently it is useless to hope for detecting meaningful signals from this star. It is little probable that there is now an autochthon-

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ous intelligent life there or that the supercivilization realizing its astroengineering activities is trying at the same time to satisfy our intellectual curiosity. The Sirius system may be rather a field of battle for the future of our region of the cosmos than simply the nearest abode of ETIs. But if this hypothesis is after all proven, our understanding of the world we live in will broaden, at any rate not less than as a result of detecting the long-awaited cosmic radio messages.

*Dr. Rubtsov is a scientist in philosophy who has written many articles on the question of the existence of extraterrestrial intelligences. His address is Ul. Chernishevskogo, 88, kv. 66, Kharkov 310023, USSR.

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ANOTHER LOST CITY FOUND IN PERU

Donald Eugene Savoy, the American explorer who has searched for ruins in the jungles of Peru since 1957, has announced the discovery of an ancient pre-Columbian city covering 120 square miles in the mountainous jungles of northeastern Peru. Savoy stated that the ruins, called "Gran Vilaya," are the most extensive of any ancient civilization found so far in the Americas. He said the ruins consist of over 80 interconnected layouts composed of some 23,950 structures.

Savoy attributes Gran Vilaya to the Chachapoyas, an empire dating back to 800 AD, which was conquered by the Incas in 1480 AD.

Gran Vilaya is located 400 miles northeast of Lima, Peru on a jungle-shrouded mountain ridge some 9,000 feet above sea level, on the upper east bank of the Marañon River in the State of Amazonas.

The expedition was sponsored by the Andean Explorers Club of Reno, Nevada and was supported by the government of Peru through its Civil Guard, the National Institute of Amazon Culture and Enturperu, the state tourism agency.

Gene Savoy also discovered the ruins of Gran Pataten in northern Peru in 1965, which were "rediscovered" in 1985 by the archaeology department of the University of Colorado. See Ancient Skies 11:6.

MORE ON THE RIDDLE OF THE STONES

In the lead article in Ancient Skies 12:2, it is stated that the stones at Sacsayhuaman in Peru either were pre-softened for working by the mason, or they were manufactured from a concrete-like mixture. This hypothesis fascinates me because I see a possible connection between this ancient stoneworking technology and a new future stoneworking technology that is still, at present, just beyond our horizon.

In an article entitled "Concrete Space Colonies," by Dr. D. J. Sheppard in the January 1979 issue of Spaceflight, the author discusses the feasibility of using prestressed concrete in the construction of space colonies and concludes that this is the best material for building a space colony because it is safer, cheaper, simpler and more suitable than any other material, including metal. Thus there is a relationship between stonemasonry and the science of astronautics.

In May, 1985, the Seventh Conference on Space Manufacturing was held at Princeton, New Jersey. Two papers on the subject of concrete-making in space were presented at the Conference. One paper entitled "Lunacrete - A Novel Approach to Extraterrestrial Construction" was presented by Larry A. Beyer. He described a method of forming habitats and workshops on the Moon using dry vibration to compact lunar soil about a mould and then sintering the mix. Heat for sintering probably would be supplied by solar mirrors. The structures produced could be extremely long-lived, durable and completely gas-tight.

The other paper, entitled "Lunar Cement Formulation for Space Systems Shielding and Construction", was presented by William Agosto and Ahmed M.M. Gaddala, Ph.D. The authors outlined the useful properties of reinforced concrete as construction materials such as structural flexibility, radiation shielding and inertial stability. Large, complex and durable structures should be readily formable in zero gravity. Materials for space structural application could be obtained from the Earth's Moon or from members of the Apollo-Amor class of inner Solar System asteroids. This method offers great advantages over the current practice of building the complete space structure on Earth (Skylab, Solyut, etc.) and then transporting it out of our deep gravity well by expensive multi-stage rockets.

The two papers were published in Space Manufacturing: Engineering with Lunar and Asteroidal Resources, the proceedings of the Seventh Princeton Conference on Space Manufacturing. The book is available from Space Studies Institute, 285 Rosedale Road, P.O. Box 82, Princeton, NJ 08540 USA.

Members of the Ancient Astronaut Society seem to be very familiar with the technology of space exploration - a technology developed largely between 1923 and the landing of Apollo 11 in 1969 - but they may not be so aware of the technology of space development - a technology that began with the publication of Gerard K. O'Neill's book The High Frontier - Human Colonies in Space, in 1976.

I imagine that the ancient astronauts we are searching for probably lived for many generations within "O'Neill-type" space habitats. The question of their initial planet of origin is probably not really important. When they came to Earth they brought with them machines designed originally for construction work in space or upon airless bodies like the Moon. The use of space-derived fabrication techniques on the Earth's surface resulted in "oddities" that were not really quarried, cut stone and were also not identifiable as the sand-cement-water mixture of "normal" concrete. The end result would be the "Riddle of the Stones." Gregory Morris, 6221 Leahbun Lane, Knoxville, Tennessee 37919 USA.

ANCIENT SKIES is published bi-monthly by the ANCIENT ASTRONAUT SOCIETY, 1921 St. Johns Ave., Highland Park, Illinois 60035 USA, for distribution to its members. Telephone (312)432-6230.

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