

Response to Appeal from W. H. McCrea
Concerning Sirius

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GENTLEMEN,—

In a recent appeal¹, Professor McCrea has requested information about the unusual stellar theories of an African tribe, the Dogon people of the Republic of Mali. Professor McCrea's earlier published remarks on the subject² had been followed by discussions between us. I have been doing research on the Dogon theories and related material actively since 1967, and the results are presented in a forthcoming book by myself³.

The basic problem is that the Dogon tribesmen have their religion and culture based on the existence of unobservable celestial bodies and motions. They maintain that their most important and tribally esoteric traditions, as first related to French anthropologists⁴ in the 1940s, are determined by the existence and motions of a dark companion star of Sirius, whose orbital period and characteristics are described by them in detail both orally and by complex diagrams drawn in the sand. The anthropologist Dr. Marcel Griaule has died, but his collaborator, Dr. Germaine Dieterlen, who is today Secretary-General of the Société des Africanistes in Paris, has published a definitive volume concerning their joint work on these and other Dogon beliefs⁵. This volume is intended as a first instalment of a series of definitive summaries of the anthropological studies of the Dogon carried out from the 1930s to the present.

The Dogon tradition of an invisible companion star of Sirius naturally calls to mind the white dwarf star Sirius B by way of comparison. What is extraordinary is that the Dogon describe the orbital period of their star as being 50 years, and the orbital period of Sirius B is thought to be approximately 49.9 years. The Dogon actually say that their dark star cannot be seen by the eye, but that it is nevertheless there. They say that it rotates very slowly

on its own axis and their sand drawings distinctly indicate a non-circular approximately elliptical orbit for it, with Sirius placed in the vicinity of one focus.

The Dogon tradition includes a heliocentric theory of the Earth, as well as of all the visible planets. The Dogon specifically claim that the Earth rotates on its own axis. They maintain that the planet Jupiter has four moons which revolve around it, and that the planet Saturn has a ring around it which "is different from the ring sometimes seen around the Moon".

The Dogon claim that their dark companion star of Sirius is the smallest type of star and yet the heaviest of stars—it is made partly of a metal called *sagala*, from a word in their language meaning "strong", a small quantity of which is supposed to be heavier than all the metal or all the grains of sand on Earth.

The obvious parallels between this tribal information and the known facts concerning the true Sirius B are too elaborate and precise to be ignored. It was for this reason that some years ago I undertook a full study of the problem. One of the immediate questions to be answered concerned the origins of the Dogon traditions relating to Sirius. The rites connected with the Sirius traditions can be traced by the anthropologists back to approximately A.D. 1200–1300 from physical evidence amongst the Dogon. At about that date one must confront early tribal migrations, as the Dogon are admitted both by themselves and others not to be native to the region where they now live.

Without going into any details whatsoever here, I should point out that an Egyptian origin of these Sirius traditions is a strong possibility. It is because of this strong evidence that Professor McCrea, though not stating any causal connection, has discussed the heliacal rising of Sirius as seen by the ancient Egyptians². The heliacal rising of Sirius as seen by the Egyptians once a year formed the basis of the famous ancient Egyptian Sothic Calendar (Sothis being the Greek version of the Egyptian name for Sirius). Sothis was identified with the goddess Isis—one of the few certainties of ancient Egyptian astronomical tradition⁶.

The theory tentatively presented by Professor McCrea to explain a tradition of a dark companion star of Sirius concerns a hypothetical mirage phenomenon. However, not only does this hypothesis leave all but the supposition of a dark companion's mere existence unexplained, but at the heliacal rising of Sirius the sands of the desert would be cold and presumably incapable of presenting a mirage-double. (And why should Sirius alone be assigned such a double?) Recent speculation in the astronomical community about the supposed "redness" of Sirius in ancient times can, however, perhaps be explained in connection with the heliacal rising. For Sirius would indeed be red at its heliacal rising, and during that very part of the year called by the ancients the "dog days" (after the Dog Star, Sirius), Sirius would actually be a searing red presence near the horizon bringing the blazing Sun rapidly in its wake—poetically one could say, as many Roman poets did, that Sirius itself was red and was scorching the Mediterranean region during late July and August. Public superstition probably attributed the heat to the herald of the heat, Sirius itself, which had appeared and seemed to have brought the hottest weather along with it.

But the problems connected with the Dogon traditions persist. The Dogon even insist on the existence of a third star in the Sirius system as well as a

non-radiant body, or planet, which they claim orbits the third star. A third star has been visually reported by astronomers in America and South Africa⁷ but the most recent detailed studies of the Sirius system have found no evidence of its existence, at least on the basis of previously reported perturbations⁸.

But how did an African tribe in a remote part of the former French Sudan arrive at such advanced concepts? Even if an origin from ancient Egypt be established, the astronomical expertise of that civilization was not thought to be such that a white dwarf star could be observed and its motions and characteristics ascertained. The existence of a heliocentric theory in ancient Egypt, though a surprise, need be no impossibility. If the Greek Aristarchus of Samos could develop such an idea, there is no reason why an ancient Egyptian astronomer could not have done the same and the knowledge of the fact be lost to us. But what appears to be a description of superdense matter constituting the dark star is the most inexplicable of all the facts. The Dogon descriptions are quite precise, though quaintly phrased: "(The star) is the smallest thing there is. It is the heaviest star . . . and so heavy that all earthly beings combined cannot lift it". And Griaule and Dieterlen⁵ report the tradition: "In effect the star weighs the equivalent of all seeds, or of all the iron on earth, although in theory, it is the size of a stretched ox-skin or a mortar".

Is there anyone who can provide a full hypothesis for these extraordinary tribal traditions?

I am, Gentlemen,

Yours faithfully,

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References

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- (3) R. K. G. Temple, *The Sirius Mystery* (Sidgwick & Jackson, London), 1975.
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