

THE SIRIUS MYSTERY:

Answering the Critics

by

Robert Temple

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Part I

The Struggle to Publish My Reply to Carl Sagan

Carl Sagan published an attack on *The Sirius Mystery* in the August 1979 issue of *Omni Magazine*, entitled 'White Dwarfs and Green Men' (pp. 44-9 and 116-8). The subtitle was 'Did ancient astronauts visit the Dogon?' Anyone who has read my book will know that I have never suggested that ancient astronauts visited the Dogon, nor did the Dogon exist in ancient times for any ancient astronauts to visit, of course. The fact that Sagan was launching a public attack on me on such a false basis seemed to me pathetic in the extreme. If you can't criticize someone honestly, why bother to do so dishonestly?

I immediately wrote to the Editor of *Omni* asking for the right of reply, but did not receive any reply to my letter. I brooded on this matter for some time and wondered how I might manage to publish a public reply to Sagan's ridiculous attack, which contained nothing that could not be easily dismissed. I managed through my old friend Bibi Wein who had a tenuous acquaintance with one of the *Omni* editors named Kathy Stein (in fact, she was the arts editor) to get an introduction which I thought might enable me to write a letter suggesting a reply. So I wrote to Kathy Stein on 3 January 1980, saying:

I wrote a book called *The Sirius Mystery* which is still a controversial subject, as witness recent issues of *Omni*. In your August issue you ran a piece by Carl Sagan discussing my theories and purporting to explain them away. I would like to do a reply. I can answer him point by point and that in itself is an interesting exercise, as everybody takes Sagan's word so seriously on any subject these days that a little dissent might make a change. You published two letters from readers about his article on p. 12 of your November issue and yet another letter from a reader on p. 18 of your December issue. So your readers do seem interested in the subject. There is a *Nova* TV program which has been shown in the States about three times now, with me in it, ... Do you feel willing to grant

'equal time' to somebody who can show that Sagan is sloppy, riddled with errors, and selects his evidence to accord with his preconceived desire to sweep my theories under the carpet? I would like a right of reply, please.

On 29 January 1980, the reply came not from Kathy Stein but from another editor called Harry Lebelson:

Thank you for your letter of January 3rd. Indeed, *Omni* feels that there is an interest in the subject of UFOs. [I had of course not mentioned UFOs, nor were they anything to do with my book.] If you would like to submit a 1,500 word manuscript on speculation dealing with a rebuttal to Carl Sagan's piece in *Omni* we would consider it for our 'UFO Update' column. However, the piece must be objective and backed up with documentation in order for us to publish the manuscript. We do not wish to get involved in a personal attack against Carl Sagan.

I could see that things were not looking promising. Lebelson should have realized if he had read Sagan's article that UFOs were not involved in the discussion. To have my reply placed in a 'UFO Update' column was in itself denigrating. Carl Sagan's article had not been placed in a 'UFO Update' column: why should my reply? Carl Sagan's article had not been backed up with documentation, but had been published anyway. The double standards of *Omni* were depressing. However, I could not give up, as a reply to Sagan was important to set the record straight, if I could manage it in any way. I wrote back to Lebelson 6 February:

Thank you for your recent letter. ... There has been some confusion over two separate issues. The matter of Carl Sagan's article and my wish to reply to it (not 'attack' him) has no connection whatever with UFOs. If you are exclusively concerned with UFOs, perhaps you could steer me towards the right person for this Carl Sagan matter. *Omni* published an article by him criticizing my book *The Sirius Mystery* and Sagan's article is full of errors. It is not an attack to try and set the record straight. I would like to write something which was more than just a critical piece about his errors, but which would cover them in the course of discussing the important issues of extraterrestrial intelligence. You need never worry that I would write anything which was not 'objective and backed up with documentation'. My book *The Sirius Mystery* was the result of nine years' research and there is hardly a statement in it which is not backed up by a footnote. I estimate it would take anybody about six months just to locate all the books in my bibliography, much less read them. The trouble with Sagan is that he is careless and slipshod now that he is so famous. The dangers of success!

Part I

There was no reply to this letter, so I wrote to Lebelson again on 27 March:

I have never heard from you in reply to my letter of February 6th. ... I am still waiting to learn whether I may be allowed to reply to Carl Sagan and have not heard anything further from you or any other *Omni* editor.

On 1 April Lebelson replied to me:

...if you would like to reply to Sagan in the form of an open letter we would consider publishing it providing its tone is not hostile.

I wrote an Open Letter to Sagan immediately, commencing:

Dear Dr Sagan,

The editors of *Omni* have kindly suggested I write you this Open Letter after I had contacted them about your article which appeared in an earlier issue of *Omni* and which formed a chapter of your recent book *Broca's Brain*.

I am highly flattered that you have wished to enter the debate about the astronomical knowledge of the Dogon tribe, first brought to public attention by my book *The Sirius Mystery* in 1976. But there are various points I should like to correct which are of considerable importance....

I sent the Open Letter to *Omni* in April but heard nothing, and received no acknowledgement. On 30th June I wrote again to Lebelson:

I believe it is about three months now since I sent you my *Open Letter to Carl Sagan*, and I have never heard from you at all. I would like to know whether you are going to print my reply to Sagan, and if so, when. I wrote a reply to him to which he could not possibly take offence, as you will have noticed. You will agree, I am sure, that I have the right to reply to Sagan's criticisms of myself in your pages by replying as you suggested. Could you please confirm that you intend to publish my Open Letter, written to your specifications? I would hate to think that you have still taken no decision.

Still no reply came from *Omni*. When my friend Arthur C. Clarke happened to drop by to see me in September, I took the occasion to get his support. The next day, on 7 September, I wrote again to *Omni*, but this time to Ben Bova, who was not only Lebelson's boss but

apparently the person who really made the editorial decisions at the magazine:

I am writing to you personally at the suggestion of our mutual friend Arthur C. Clarke, who specifically told me to mention his name to you as supporting my grievance, which I shall explain in a moment. Arthur was here at my house yesterday and he told me of how you had sent him some manuscripts many years ago when you were a struggling young writer, of what a considerate person he thought you were, and it seems clear to me that if you had known what I am about to tell you, things would not have been allowed to go the way they have. In August 1979, *Omni* published an article by Carl Sagan criticizing me and my book *The Sirius Mystery*. This caused a considerable reaction, and letters from several readers appeared in issues for October, November, and December - three successive months. I wrote to *Omni* asking for the right of reply to Sagan but no one would even answer me. I asked my friend Bibi Wein to intercede for me with Kathy Keeton, which I believe she did....

I gave a further account of what had happened to date and added: '...my Open Letter is entirely harmless and lacking in any form of hostility whatsoever. But I have never managed to get Lebelson to write to me again, and he does not reply to my letters. It appears that my Open Letter is not going to be published by *Omni* and after more than a year I have every justification for being extremely dissatisfied by being refused what I look upon as my right of reply to criticisms of my book and my reputation made in your pages. This is what I discussed with Arthur, and he was disturbed to hear that *Omni* had apparently not been willing to let me have the right of reply. That is why he urged me to contact you directly because he said if I did that, he was sure you would sort this situation out. ... I look forward to hearing from you in the near future.'

Lebelson replied to my letter to Ben Bova immediately, on 16 September:

I'm sorry for the inconvenience caused by the delay in evaluating your reply to Carl Sagan. We are going to publish the material and would appreciate having you condense your reply and resubmit it to us for publication. Once again, our regrets for the delay.

I drafted a reply on 28 September:

Thank you for your letter of September 16. I am delighted that *Omni* have at last decided to publish my reply to Carl Sagan.

It would be more helpful if you would specify what you mean. You ask me to condense my reply but you do not bother to say how many

words it should be! ... I cannot possibly do anything until you tell me what it is that needs doing. Therefore I shall have to await your reply before having sufficiently specific guidance to know just what it is that is necessary. ... And if you want to use any illustrations, I have many available...'

I added some grumpier comments than that, then decided not to send the letter, as it would be counter-productive. A few days later, Harry Lebelson phoned me. He said the decision at *Omni* was that they did not want to 'offend Carl Sagan' and that therefore they were not prepared to publish my Open Letter or allow me to reply to his criticisms in any way. However, they were prepared to commission me to write an article about the Sirius Mystery as long as I did not attempt to include in it any reply of any kind to Carl Sagan. I must 'not go over any old ground'. The piece could be 1,500 words long. I would be paid.

I decided during the conversation that, however insulting, and indeed immoral, I considered this attitude and these remarks, I would at least attempt to retrieve something from the situation and accept the invitation to write a 1,500 word article about Sirius. I agreed to write the piece.

Soon afterwards, on 7 October, Lebelson sent me a remarkably friendly note commencing 'Dear Bob,!' It read:

'I thought you might like some interesting reading matter from *Omni*. I'm enclosing the last two issues for your enjoyment. It was a pleasure talking with you the other day and I look forward to receiving your material as soon as you can get it to me.'

Events prevented me from doing this quickly, and it was not until 5 January that I posted to Harry Lebelson my article with the *Omni*-friendly title of 'The Nommos Are Coming'. I said in my letter:

...I was pleased to have your phone call when you commissioned me to do the piece. Here it is and you will note - to *Omni*'s great delight, I'm sure, I don't reply to Sagan at all, but merely refer the reader to my reply to Sagan in a scholarly journal. I am very keen not to have this edited out. Perhaps I should stress that. After all, as I didn't reply to Sagan the least *Omni* can do is allow me to announce that I have replied to him elsewhere and leave it at that. It is essential for my credibility for people to know that I have answers to Sagan's points. I am sure you will agree and there will be no problem.

I think you will agree the piece I have sent is provocative of new thinking and does not go over any old ground. ... I hope you are happy with it.

I never had another friendly note from Harry Lebelson again. The article was never printed. I was never paid a penny, even though I had been officially commissioned to write the article (not to mention commissioned by implication for the Open Letter earlier). Probably I should have had the sense to realize that I had been wasting my time from the very beginning. After all, one has to note that I was treated with less consideration than an ordinary reader: several readers had written in and had their remarks about my book published in the Correspondence section, but I, the person attacked, was not even allowed that courtesy. Everyone seemed to be allowed to have their say about me in *Omni* but myself.

In 1990 Harry Lebelson, by then described as 'a free-lance writer ... formerly UFO Editor for *Omni Magazine*', published a long article in the Ancient Astronauts Society periodical *Ancient Skies* (Vol. 17, No. 5, November-December, 1990). It was entitled 'The Search for Ancient Aquanauts', and it was about the Nommos. I was pleased to see that 'Robert Temple, author of *The Sirius Mystery*, supports the theory.' I would hate not to support a theory I had originated. At least he had good things to say about me and quoted extensively from my work in support of his view. He had the excellent good sense of humour to say: 'The astronomer Carl Sagan seems to be in agreement...', and also: 'Sagan and Temple cautiously present their information in an atmosphere of reserved scepticism.' So, Sagan and I by 1990 had ended up lumped together; is this not the best comic irony of all?

I did not give up trying to publish my reply to Sagan. As soon as I realised in October, 1980, that *Omni* would never allow me any right of reply at all, I wrote to Dr Marcello Truzzi, who edited a scholarly journal with a fairly tiny circulation called *The Zetetic Scholar*, published by the Department of Sociology of Eastern Michigan University at Ypsilanti, Michigan. I wrote to him on 30 October:

...I enclose an open Letter to Carl Sagan which I wrote at the request of *Omni Magazine* to reply to an article by Sagan against my book *The Sirius Mystery*. However, they will not publish it because they do not want to alienate Sagan. After I got Arthur Clarke, the only man they think more highly of than Sagan, to intervene and ask the Editor to let me have my say, they phoned and commissioned me to write a piece about Sirius but still say they don't want me to answer Sagan. So they are basically only appeasing me because Arthur Clarke was disturbed about their treating me badly. But they still will not agree to 'antagonize' Sagan by publishing a complete refutation of his criticisms of my book. I wondered, therefore, whether you would consider publishing my reply to Sagan in *Zetetic Scholar*? I want to publish it somewhere ... I would be most indebted to you if you would consider this.

Marcello, with whom I had had some contact before although we have never met, replied on 14 November:

Good to hear from you. I would be delighted to publish your reply to Sagan in issue after next (that is, in issue 8 due out around June 1981). ... Though I am frankly not too optimistic that Sagan will reply, I will send him a copy of your letter as soon as you re-do the beginning and get that to me. If he replies, I will try to publish it in the same issue, and if time will allow, I will also include your rejoinder (should you wish) in the same issue. ... Thanks for thinking of ZS for your reply....

Issue Number 8 of the *Zetetic Scholar* duly came out in July, 1981, and on p. 29 appeared my 'On the Sirius Mystery: An Open Letter to Carl Sagan'. It is reprinted in full below.

Carl Sagan never answered Marcello Truzzi, despite follow-ups urging him to reply to my Open Letter. Of course, what could Sagan say? Admit that his attack on me was superficial and shallow nonsense? Apologize? Not quite in his character, I think. In any case, judge for yourselves:

ON THE SIRIUS MYSTERY: AN OPEN LETTER TO CARL SAGAN

Robert K. G. Temple

Dear Dr Sagan:

I am highly flattered that you have wished to enter the debate about the astronomical knowledge of the Dogon tribe of Africa, first brought to public attention by my book *The Sirius Mystery* in 1976. Your contribution to this subject first appeared in the magazine *Omni* for August 1979, and was followed by assorted letters from readers in the issues of *Omni* for the following October, November, and December, and then this year (1981) by an article in *Omni* by myself. [The article which, though commissioned, went unpublished after all. But at this point I expected it to appear.] Your article also formed a chapter in your book *Broca's Brain*.

I try to reply to critics of *The Sirius Mystery* when there is an obvious forum in which to do so. It is not always easy to arrange this. A friend of yours, James Oberg, wrote a lengthy critique of *The Sirius Mystery* in *Fate Magazine* for November 1978, which I answered fully, completely refuting all points of criticism, in the issue of *Fate* for October 1980. Many months of illness prevented me earlier from making several replies such as I would have wished, or as early as I would have wished. A lengthy critique by A. C. Grayling in Issue Six of

the British magazine *Ad Astra* was fully answered by me in Issue Eight of the same magazine. But I have experienced some difficulty in persuading certain magazines to grant me the right of reply. After a year of my insisting, *Omni* finally agreed to let me write an article about *The Sirius Mystery* as long as it did not consist of a reply to your points raised earlier in their pages. They repeatedly told me they did not wish to publish responses to your points because they did not wish to 'offend' you. The Editor of *Nature* has also refused to allow me proper right of reply to a critic.

You can therefore appreciate some of the difficulties I have encountered in attempting to discuss these matters and respond to criticisms. Just for the record, you might be interested to know that I have yet to encounter a single criticism of *The Sirius Mystery* to which there was not a satisfactory reply. You can imagine, therefore, how grateful I am to the *Zetetic Scholar* for allowing me to respond to your own points in their pages, a discussion I feel sure you will not find in any way the slightest degree offensive, but will rather welcome in the true spirit of scientific enquiry.

There are various points you made in your article/chapter which I should like to correct, and which are of considerable importance. Let me first say that although you obviously thought I was British when we met in London, I am in fact an American. This is the least important of the fifteen points I wish to make. But as you did describe me in your article as British, I thought it best to take this opportunity to correct you.

The Dogon tribe of Mali in Africa possess highly advanced astronomical information, much of it concerning the system of the star Sirius, and this is what has come to be referred to as 'the Sirius Mystery.' You have raised the suggestion that this information came to the Dogon from modern Western sources. Dr Germaine Dieterlen, the Secretary General of the Société des Africainistes at the Musée de l'Homme in Paris, is the anthropologist who together with the late Dr Marcel Griaule first published an account of the Sirius traditions of the Dogon. As she has spent most of her life living with the Dogon and knows them and their traditions more intimately than anyone else alive, her opinion on a possible Western origin for the Sirius traditions of the Dogon is of the highest importance. She answers such suggestions with a single word: 'Absurd!' The BBC-TV *Horizon* Program which was shown three times nationally as a Nova Program in America, 'The Case for the Ancient Astronauts,' featured a fascinating interview with Dr Dieterlen in which she made this remark very strongly and held up in front of the cameras a Dogon artifact representing the three stars which the Dogon claim are at the Sirius system, and which she said was 400 years old. I have this on video-tape at home, but was often puzzled why friends in America who saw the TV program never seemed to have 'registered' Dr Dieterlen's forceful remarks. Eventually I came to realize that this section of the

program was apparently edited-out for American television! So that would explain why you also appear to be unaware of the opinion expressed on this subject by the world's leading authority.

My third point relates to Western missionaries. Long ago I wrote to the head of the White Fathers in Mali, Father Dubreul at Mopti, who replied saying that none of their missionaries had had any contact with the Dogon before 1949. But as you know, the information of the Dogon Sirius traditions had by that time already been gathered by the anthropologists. So therefore these missionaries are ruled out as a source. Please allow me to send you sometime a photocopy of this letter from Father Dubreul. I did send a copy of it to another person whom we both know, who shall be nameless, who went right ahead anyway and published a quite false and contrary story in an account in which he discussed the matter. This omission to which I refer would probably have led you unwittingly into error on this subject.

My fourth point relates to a suggestion made by you, which originated with an earlier writer whom you consulted, that Dogon were conscripted by the French to fight in the trenches in World War I. These Dogon soldiers, it is claimed, would have had access to modern Western scientific traditions about Sirius. First of all, I do not believe it is true that any Dogon tribesmen fought in any trenches in Europe in the First World War. But let us assume that they did; it is physically impossible that this could explain the 'Sirius Mystery' for the simple fact that the Dogon tradition of the superdensity of the star Sirius B could not have been obtained that early in the West. Eddington revealed the superdensity of Sirius B about 1926, long after the First World War had ended, and as you yourself mention, in 1928 he published this in his popular book *The Nature of the Physical World*, of which I have a first edition in my library which states that the work is a publication of his Gifford Lectures of 1927. You mention that this book was widely popular and translated into French. But alas, by 1931 the anthropologists were already with the the Dogon and would have known if some group of Western amateur astronomers had rushed out to the desolate hinterland of Mali to implant this knowledge in the presumably pliant minds of the Dogon priests in that narrow period of two or three years before their own arrival. How all of this was then supposed to have filtered down through the entire Dogon and surrounding cultures of over two million people and been embodied in the hundreds or thousands of objects, symbols, woven blankets, carved statues, etc., etc., which exist in those cultures relating to the 'Sirius Mystery' in only two or three years baffles me. And how these hundreds or thousands of objects are meant to have been expertly fabricated fakes purporting to be centuries old, fooling all dating experts, baffles me even more. It is considerations like these and many more (such as the tribal sacredness of the tradition making it unlikely that it could have come from Western intruders who would not have been highly regarded or in the confidence of the meticulous

and traditional priests) which lead Dr Dieterlen to reject the suggestion of Western origins as absurd. Hence my fifth point: the 1928-1931 gap is too narrow and too late. (I also asked Father Dubreul whether any of the admittedly too late White Fathers were knowledgeable about astronomy and he said no.) And as regards Dr Dieterlen, my sixth point is that you nowhere even mention her, despite her being the co-author with Dr Griaule of the original anthropological report. And yet she is still very much alive and actually rejected your thesis on television years before your book advocating it was published.

My seventh and eighth points are highly important. You say 'Temple says' the Dogon maintain the star Sirius B orbits around Sirius A in an ellipse, and you also say that 'there is some evidence that the Dogon like to frame pictures with an ellipse, and that Temple may be mistaken about the claim that in Dogon mythology the planets and Sirius B move in elliptical orbits.' First of all, it is *not* Temple who says this, but the Dogon themselves, and secondly, I am not mistaken about it because there is more explicit evidence than you noticed. If you look at p. 45 of my book, where I publish an English translation (vetted for accuracy by Dr Dieterlen) of the original anthropological report by Griaule and Dieterlen, it is not Temple who says anything at all! This part of my book is *not written by me*, but by the anthropologists. It is they who say explicitly that the system of the three stars at Sirius 'is represented by a pattern ... consisting of an oval [ellipsoid] in which one of the centers is Sirius.' (Italics mine). On p. 40 of my book there is another diagram of the orbit to which you do not refer. There the anthropologists make quite explicit the elliptical nature of the orbit by reproducing the stationary position of Sirius A and the two extreme positions of Sirius B with the ellipse showing the movement between the two extremes and which they specifically say 'gives an idea of this trajectory'. On p. 6 also you may see Figure 8, taken from the book *Le Renard Pâle* by Griaule and Dieterlen. Here we see a specifically astronomical diagram: it shows the star Sirius C going around Sirius A in an elliptical orbit and a planet going around the star Sirius C also in a highly elongated elliptical orbit of its own, of a much smaller scale. You have neglected all of this evidence, I regret to say.

You briefly mention that in the Dogon mythology 'twins play a central role,' which is certainly true. But when you suggest that this might explain why the Dogon gave Sirius a companion star (an argument advocated at great length by some others), you have drawn a too hasty conclusion. For if looked at with sufficient attentiveness, the 'twin' argument actually is seen to be evidence *against*, not *for*, the Dogon Sirius traditions being as they are. The reason for this (which some others appear to have obscured on purpose because it did not suit their arguments) is that the Dogon insist that there are not two but *three* stars in the Sirius system. If they had fabricated a

tradition of two stars to accord with the sacredness of twins, they would never have insisted on a third star's existence. Thus my tenth point: three stars do not make twins!

My next point is an astronomical one, something which evidently slipped your mind when discussing (before rightly rejecting) the idea that the tiny Sirius B, which evolved from an earlier massive star, might have been visible to the naked eye in the historical past. Although you reject this theory, you remark that if it were true, 'The relative motions of the two stars about each other could be discerned with the eye.' This might lead others who do not agree with you in rejecting the theory into error. For you neglected to realize that even at that earlier stage in its evolution millions of years ago when it was a large star, Sirius B, which is invisible now to the naked eye (one of the reasons for 'the Sirius Mystery' being a mystery), would still have been indistinguishable from its companion star as a separate object because of the minute parallax. This effectively destroys all arguments for the visibility of Sirius B in the past without need for further discussion.

But my further points would be to agree with you that it is astrophysically impossible for Sirius B to have been such a large 'red giant' star anyway within the past one or two million years at least, and also to comment on your interesting quotation from Horace about 'The red dog star.' There are a number of ancient quotations which either refer to Sirius as red, or are said to do so. 'The redness of Sirius in antiquity' problem has been a major controversy in astronomy since the eighteenth century, in which leading figures such as Herschel, Schiaparelli, and Eddington have taken part. I have nearly finished the most complete historical review of this controversy ever undertaken, including translating the entire texts of the many German articles on the subject. It is my intention to publish the results and a full bibliography when time permits. [I never found the opportunity to do this. - 1997 note.] I dare to hope that the two-hundred-year controversy will then be settled in the negative: *No*, Sirius was not actually red in antiquity. It was red during the early Dog Days each year in the Mediterranean area because it was at the horizon and was reddened just as the rising and setting Sun is reddened. But some ancient Greek sources describing Sirius as *poikilos* are said to describe it as being red. Such reports are simple mistranslations and show only that astronomers are not always good classical scholars. The Greek word *poikilos* never at any time had the meaning 'red' as some astronomers wrongly supposed. It meant 'mottled', and referred to the high degree of scintillation for which Sirius is well noted. These few remarks, then, should go some way towards clarifying the information which you found in Horace. A full account of the matter will be published in my complete survey of that particular subject in the future.

I should like to remark in passing that, although you are correct in saying that the heliacal rising of Sirius was used in ancient Egypt to signal the inundation by the Nile, this was true only for a relatively brief period and was not the primary significance of the heliacal rising. The reason why this was a transitory aspect of the matter is that the date of the heliacal rising continually shifted, due to the precession of the equinoxes.

My fifteenth and final point is where I rush to the defence of the Dogon when you mention their tradition of the Creator and the plaited basket, which you find tempting to regard as an inferior or primitive myth. Actually, this basket may be a survival of the basket invariably carried by the Babylonian Oannes/Dagon, as clearly seen in Plates 6, 7, 8, and 9* in my book. And this may also be the source of the sacred basket of Demeter from the ancient Greek mysteries. In the Introduction to *Le Renard Pâle*, Dr Germaine Dieterlen speaks of the basket: 'For the Dogon as well as for the other societies of West Africa, the smallest common object reveals by its shape and its decorations, the voluntary expression of a complicated cosmogony. ... Thus ... a basket used for carrying represents, when it is upside down, the ark on which human beings descended from heaven to the earth, the square bottom represents space and the four cardinal points.' Your account of this sacred basket is misleading. In fact, the *tazi* basket of which you speak represents the second ark of Ogo, and the third ark of Ogo is represented by another basket called *nugoro*, while the first is represented by the *nukoro* basket. The two latter ones are associated to rites related to the four major moons of Jupiter (which are also invisible to the naked eye). All three baskets are meant to portray what we Westerners would call space ships. It is to be regretted that you chose the example of the basket as an intended illustration of their backwardness. Space ships are really rather *forward*. And knowledge of the invisible moons of Jupiter is hardly primitive.

But there is more to the matter than that. I would hope that when one day you have the time, you might study the Dogon cosmogony more thoroughly. In my personal opinion, it is one of the richest, most profound systems of thought in the entire world. A superficial glance at it could offer any number of disconnected subjects of ridicule and derision, just as in the same way one could take the cross of Christianity, the candlestick of Judaism, the tetractys of the Pythagoreans, the rites of Shinto, the belly of the Buddha, or the Mohammedan's bowing towards Mecca and journeying there in order to walk in circles around a meteorite as examples - in the disjointed sense, out of context - of barbaric primitivism amongst all those peoples, and prove them morons. And yet in those more familiar cases we know full well that the apparently ridiculous details form part of larger and deeply meaningful philosophies and religions. The same is true of the Dogon. I assure you, from the years I have studied them through reports, and the conversations I have had with the

anthropologists who have lived with them over decades, the Dogon are, in the sense of the intrinsic value of their thought, one of the leading cultures of the world. They may be indifferent to modern Western technology, but their moral fibre equals or surpasses our own, their philosophy and religion are as a whole not a whit inferior to any other in existence on this planet; they are happy, contented, fulfilled people with rich and meaningful lives. And, frankly, if I were a Dogon I would be very proud of it and look at the materialistic West with some degree of pity. But they are too magnanimous to pity us. Their thoughts are, after all, often amongst the stars.

Part II

Replies to Other Critics

Besides the reply to Carl Sagan reprinted in Part I, the following replies to critics were either published or suppressed, as the case varied. Since these answer so many questions which have been raised about The Sirius Mystery, I thought it would be helpful to reviewers to have ready availability to them. Perhaps they should be considered The Sirius Mystery FAQ (Frequently-Asked-Questions), to use the conventional phrase which has now become common on the internet.

REPLY TO A. C. GRAYLING (1979)

I strongly suspect that A. C. Grayling is a pseudonym, as I have never heard of him in any other context. This exchange took place in a very obscure and now entirely forgotten magazine called *Ad Astra*, published in London. Since Ian Ridpath was a contributor to the magazine, and had criticized my book elsewhere, he might possibly be 'A. C. Grayling'. Or it might have been someone who knew me and wanted to remain anonymous. The article by Grayling entitled 'Solving the Sirius Mystery' appeared in Issue 6 (1978) and I was invited to reply, which I did in Issue 8 (1979), pp. 9-10, under the title 'No Easy Solution to the Sirius Mystery'. My article follows:

NO EASY SOLUTION TO THE SIRIUS MYSTERY

As author of the book *The Sirius Mystery*, I have been invited by the editor to reply to the article 'Solving the Sirius Mystery', by A. C. Grayling, which appeared in Issue Six.

Mr Grayling proposes to have solved the Sirius Mystery by what he hopes is an ingenious theory, and it is unfortunate for those who like simple solutions that Mr Grayling's will not work. He has certainly done a better job of trying to solve the mystery than many other people who have made similar attempts and failed, such as Carl Sagan. Grayling has made herculean efforts to come up with an astrophysical fantasy which will hold up to scientific scrutiny and thereby solve the problems of the Sirius Mystery.

Basically, what Mr Grayling proposes for an explanation as to how ancient peoples knew of the existence of the star Sirius B, which is invisible to the naked eye, is that Sirius B was in ancient times *not invisible*. This in itself is not new, and has been suggested by many people before. Indeed, I wondered about this at the very beginning of my research. But theories that Sirius B collapsed into its white dwarf state in historical times go against all the known principles of astrophysics, which say that this could not possibly have happened as recently as that, but must have been at least one or two million years ago, possibly much longer. And it is to Mr Grayling's credit that he does not advocate this. He has made a far more sophisticated attempt to come up with a scenario which could enable Sirius B to be larger and visible to the naked eye. He elaborates a complicated process whereby the large-star Sirius A would have hydrogen drawn from its outer layers by Sirius B, which would then cross over and form a 'skin' around the smaller star. This 'skin' would heat up and begin to burn. Eventually the temperature of the 'skin' would rise so much that it would 'burst outwards in a great burning flare. This phenomenon is known as a *nova*...

What these stars won't get up to in their highjinks! If two stars are left alone together for long enough in space they begin to fiddle with each other. It's shocking. Here we have Sirius A getting familiar with its little companion star. Well, this is most ingenious. The astronomers and astrophysicists with whom I have discussed these matters mention mass transfer in the other direction, as a means of explaining the evolution of this binary system. But no matter. Who would dream of denying Sirius B this small comfort in the loneliness of the vast reaches of space?

But will it work? I mean, will it *solve the Sirius Mystery*? Can we see Sirius B blowing off steam when it has had enough of Sirius A's attentions and wants to be left alone for a while? Is this the simple answer we have all been looking for? The answer is *No*.

The trouble is that Sirius A and Sirius B are so close together that they cannot be distinguished. If they were both of the same size they would still appear to the naked eye to be one body in space. Because of the minute parallax between the two bodies and the impossibility of resolving them without a good telescope and a lot of expertise. Mr Grayling's proposal will not hold up even if his astrophysics are correct (which I have not bothered to check, since there is no point).

The point I have just made of the parallax unfortunately did not occur to Mr Grayling, and I must therefore remind him of it with slight impatience. I must confess that it is rather annoying to have people continually coming up with simplistic schemes to sweep the Sirius Mystery under the carpet, for it implies that people think I am so stupid I never thought of such things myself in the nine years I worked on preparing this problem for publication.

In noting that the separation between the two bodies is just not sufficient for them to be resolved by the naked eye even if they were the same size, it is important to remember that they are closer together than our Sun and the planet Saturn, but are about nine light-years away from us! It should be common knowledge to anyone, like Mr Grayling, who takes an interest in astronomy, that we have great difficulty in detecting the existence of planets in other solar systems even with our most sophisticated equipment (all such detections remain controversial). And yet he believes that by simply flaring up, a body smaller than the Earth and closer than Saturn is to our own Sun to a star 10,000 times brighter than our Sun would immediately become an easy object for ancient man to observe. He then goes on to observe that this unstable state of affairs had to last at least a hundred years (longer than any nova I have ever heard of) for the precise orbital period of this body around Sirius to be determined (by whom?). Somehow, also, the elliptical nature of its orbit was realized by the ancients. How? An understanding of degenerate superdense matter was then arrived at by some wonderful intuitive leap of the ancient mind. We are presumably to imagine ancient astronomers sitting crosslegged and brooding on a still uninvented modern physics, penetrating to the mysteries of atomic matter and the nature of electrons, and concluding that superdense matter was the only and obvious explanation of this flare in the sky, and also that such superdense matter did not exist anywhere on Earth (which is specifically maintained by the Dogon).

Grayling has the nerve to say 'This is a far simpler, and far more scientifically respectable solution to the "Sirius Mystery" than Temple's offering.'! If we are willing to admit that the impossible is possible, if we are willing to abolish the laws of optics and take liberties with the principles of astrophysics, then if Mr Grayling thinks this is simpler, it is simple-minded. Not only is it not scientifically more respectable, it is in fact scientifically impossible.

I disagree in principle with people who have preconceptions in their own minds against the possibility of a visitation of our planet by intelligent extraterrestrials at some time in the past history of the planet. Why is this so startling a notion? Because we were not told it at school? Are we so incapable of speculating about these matters that we deny them solely because such a visitation *seems to us extraordinary*? Mr Grayling displays a serious and unscientific bias against extraterrestrial visitations by dismissing the possibility with the mocking phrase 'little green men'. This cliché has now taken on the value of a slur-word, rather like 'commies', 'pigs', 'fascists', 'queers'. People fall back on these clichés to dismiss what they cannot and do not want to understand or face. People who do not wish to have to bother to consider each other's opposing political views can smear each other with the epithets 'commies' and 'fascists', which makes a dialogue of the deaf. In discussing extraterrestrial visitation

possibilities, all you have to do is drag in the phrase 'little green men' and immediately you can conclude that your opponent is humiliated and ridiculed, giving you some sort of easy victory. But this is a cheap betrayal of the human powers of reason and logic and is totally unscientific.

Mr Grayling discusses 'why so much credence is accorded visitation theories'. I agree with him that 'people are ever hungry for a neat and inclusive theory which explains their origins and their world' – one has only to look at the nonsense people will accept as part of the belief-systems of certain of the world's religions! No doubt this motive, which is as old as humanity and not something Mr Grayling has discovered, is a strong one for many people *wanting to believe* that our civilizations on this planet are extraterrestrial in origin. But this does not excuse Mr Grayling's *wanting to disbelieve it*. For Grayling thereby commits the reverse of the same fault which he criticizes in others. There is no use his criticizing credulity based on wishful thinking when he himself is guilty of *in-credulity* based on wishful thinking. He is merely taking up the tired and sagging conservative stance versus the liberal 'believers'. But why do we need to divide into hawks and doves on such an issue? While his observation that von Däniken has helped to create a new mythology is valid, Grayling merely puts himself in the pointless role of a Pharisee.

There is no reasonable basis for Mr Grayling to be certain that there is an 'inherent implausibility' to the Earth having been visited at some time in its history by intelligent extraterrestrials. It is merely Mr Grayling's personal bias which is expressed in the statement. He gives no reasons why a visitation is inherently implausible. The implausibility is an *opinion* only. I will state my *opinion*: a visitation is *probable*. If he wishes to enter into a debate on the subject, then we might write articles representing the two points of view – I could present evidence in favour of the probability and he might present evidence for the implausibility. But I do not intend to enter into that discussion on this occasion.

Mr Grayling states that the Dogon maintain that the home planet of the beings from Sirius A 'is attached to Sirius B.' This is not true. A reading of my book which was truly attentive would reveal clearly that the Dogon maintain that this planet orbits around a third star which they claim is in the system, called by me Sirius C (and which several astronomers claim to have observed, but which is unconfirmed). It is not as if this were buried in small print; on page 26 of my book (page 46 in the paperback) I reproduce a Dogon diagram of this planet going around Sirius C. How can Mr Grayling make such an obvious error? Is he more intent on his theory than on the facts? If you are offering a 'better' theory you should at least pay attention to the one you are 'bettering'. Mr Grayling nowhere mentions the information from the Dogon about the possible existence of a Sirius C. Nor does he provide any explanation of how the Dogon

knew of other invisible bodies in space – the four major moons of Jupiter and the rings of Saturn. Did these ‘flare’ too? How do they know of the superdense matter which composes the white dwarf star and express it so dearly? How did they know that cosmic orbits are elliptical? How did they know that all cosmic bodies rotate on their axes, and that the Earth rotates on its axis as well as revolving around the Sun? How did they have a concept of a solar system, describing not one but two solar systems separated by interstellar space? How did they know that our Galaxy is swirling in space and contains countless worlds? They correctly understand the distinction between planets and stars and between the solar system and the Galaxy, and that other solar systems attach to other stars. They also speak of intelligent beings in yet other solar systems of whom they say they know only by repute. And yet any number of people in the street today in a modern city, who have had supposedly good educations, do not know the difference between a star and a planet much less all the other things. Even in this ‘space age’ such ignorance is widespread, and it never ceases to astound me when I frequently encounter it.

Where are Mr Grayling’s solutions to these problems? He admits that his theory is intended to ‘explain away “The Sirius Mystery”.’ This means that he wants at all costs to be rid of it. He is not interested in explaining, but in *explaining away*, which is very different. And he even gives his motives: ‘(My theory) does not demand a radical change in our views.’ And also: ‘If Temple’s theory is right, then of course our view of history, of the universe, and of ourselves, would have to be changed radically.’

Would that be so terrible?

REPLY TO JAMES OBERG (1980)

In the November 1978 issue of the American magazine *Fate*, James Oberg published a long second attack on my book entitled ‘Ancient Astronauts in West Africa?’ I was invited by the editors to reply, and did so in the October 1980 issue, pp. 83–88, in an article entitled ‘In Defence of *The Sirius Mystery*’. In the introductory remarks written by the Editor preceding my reply, he states: ‘The Dogon make a further claim: that the Sirius system contains a third star, around which orbits a planet populated by intelligent beings. This belief, unlike the others, has not as yet been confirmed by astronomers.’ As we have seen in Chapter One of my revised edition of *The Sirius Mystery*, the third star, Sirius C, has now indeed been confirmed, thus providing a splendid confirmation of the Sirius Mystery hypothesis by the ultimate scientific method: confirmation of a prediction.

IN DEFENSE OF THE SIRIUS MYSTERY

Most theories about ‘ancient astronauts’ have failed to impress scholars, who hold that such speculations are based on poor research, flimsy evidence and bogus information. One book, however, has attracted respectful attention even in England’s prestigious scientific journal *Nature*: Robert K. G. Temple’s *The Sirius Mystery* (St Martin’s Press, 1976).

The book deals with the mythology of West Africa’s Dogon tribe, which possesses information about the composition of the Sirius star system (and our own solar system as well) that conforms to modern astronomical knowledge. The Dogon know, for example, about a smaller star (astronomers call it Sirius B) which circles Sirius – even though this star is invisible from Earth. But that is not all they know.

Temple writes, ‘They know that the star’s orbital period is 50 years, which it really is. They know that Sirius A is not at the centre of its orbit, which it is not. They know that Sirius A is at one of the foci of Sirius B’s elliptical orbit, which it is. They know that Sirius B is the smallest kind of star, which it is. They know that Sirius B is composed of a special kind of material which is called *sagala*, from a root meaning “strong”, and that this material is heavier than all the iron on earth, etc., all of which is perfectly true.’

The Dogon make a further claim: that the Sirius system contains a third star, around which orbits a planet populated by intelligent beings. This belief, unlike the others, has not as yet been confirmed by astronomers. The Dogon also say that Nommo, a being from the Sirius system, founded civilization on Earth.

In an article published in *Fate* (‘Ancient Astronauts in West Africa?’), November 1978 issue) James E. Oberg takes issue with Temple’s conclusions. He suggests that the Sirius beliefs are not nearly so old as Temple contends, that in fact they may have been passed on to the Dogon by European missionaries. He disputes the contention that an earthlike planet could exist in the Sirius system and questions Temple’s assertion that he has traced the Sirius myth into antiquity. ‘We need more reliable evidence – especially theories that can be tested,’ he says.

Temple’s reply follows:

In my book *The Sirius Mystery* I suggested that astronomical information which the Dogon tribe of Mali, West Africa, possesses about the Sirius star system may have come from extraterrestrial sources. The key word here is *may*. Nowhere do I say, as James Oberg claims I do, that I have been able to ‘establish the certainty that the informants were extraterrestrial.’ I make crystal-clear at all times that what I have suggested is an *hypothesis only*.

Oberg says that I remark on the absorption of a Christ-figure into Dogon culture – ‘obviously a recent addition’ in his view. I nowhere

suggest that a Christ-figure was absorbed into the culture. There are some such elements present but I believe them to be indigenous: there is no anthropological evidence this is a *recent* addition to the Dogon's belief-system. 'Christ figures' - Osiris for one prominent example - existed in mythology long before Christ was born.

According to Oberg I maintain that 'the inhabitants of Sirius are aquatic because in Greek the word for "Sirius" sounds like the word for "siren", a "mermaid"'. Not true, as anyone who had read my book carefully would know. On page 65 I refer, entirely in passing, to the Greek word for siren and its similarity to the word for Sirius, drawing absolutely no conclusions of any kind.

Oberg remarks that Dogon beliefs about the four moons of Jupiter are wrong because Jupiter has over a dozen moons. He neglects to mention that Jupiter has only four *major* moons; the rest are tiny insignificant bodies by comparison. Although technically 'moons', they are hardly in the same category. I dealt with this matter on page 28 of my book.

Oberg writes, 'Europeans... talked about the discovery of a third star in the Sirius system, although later investigations ruled out that possibility.' Again, not quite true. A third star in the Sirius system, named Sirius C by the astronomers who saw it, was observed repeatedly by different astronomers in the 1920s. Attempts to see this star in recent years have been unsuccessful and an apparent perturbation in the motion of the primary star, Sirius A, thought to have been detected earlier and linked to a third star in the system, has been disproven. This, however, has no bearing whatever on the question of whether or not an outer star exists; such a star would cause a perturbation over a much lengthier period than the one scientists thought they had observed.

So the possible existence of a third star in the Sirius system has not been 'ruled out' by any means. To the contrary, it remains a distinct possibility.

In fact, the description by the Dogon tribe of a third star in the Sirius system maintains that it is four times lighter in weight than Sirius B, which in modern astronomical terms would mean that it is what astronomers call a red dwarf star. In recent years we have discovered that red dwarf stars can be flare stars; in other words, they flare up by one or two magnitudes and then subside again. What makes this so interesting is that the Dogon information not only predates astronomy's discovery (made in the 1970s) that red dwarfs can be flare stars but also provides a possible explanation of how a star in the Sirius system could be seen and later not seen. Can it be that there is indeed a Sirius C and that it is a red dwarf which in the 1920s flared and became briefly visible from Earth before subsiding again?

It may be possible to know this within our lifetimes. The orbiting observatory of the 1980s will carry equipment fully capable of

making a search for Sirius C. An apodized optical telescope might be capable of doing the same from Earth even sooner. Or eventually a spinning infrared interferometer, suggested recently by Dr R. N. Bracewell, might bring results.

Such a search of the Sirius system should be carried out. The Sirius system is the only star system for which we have testable predictions made by a possibly extraterrestrial source from the past. The basis of science is supposed to be the use and testing of predictive mechanisms. We have in the Dogon information a predictive mechanism which it is our duty to test, regardless of our own preconceptions. If a Sirius C is ever found again this would go a long way toward confirming the accuracy of the Dogon claims. More specifically, if a Sirius C is ever discovered *and found to be a red dwarf*, I will conclude that the Dogon information has been fully validated.

The Dogon also mention a period of rotation of Sirius B: 'It revolves upon itself over the period of one year and this revolution [*sic* - rotation] is honoured during the celebration of the *bado* rite.' This rotation is astronomically possible but whether it is correct or not we cannot yet know. Here, then, is another datum to be investigated when it is possible.

Another is the Dogon description of a strange proximity effect in the Sirius system. The Dogon maintain that when Sirius B is close to Sirius, Sirius becomes brighter and when it is furthest away, Sirius B gives off a twinkling effect suggesting, they say, several stars to the observer. Page 40 of my book contains a Dogon diagram of the elliptical orbit of Sirius B around Sirius, with the closest and furthest positions of Sirius B indicated on the diagram in relation to Sirius A. For the representation of its farthest position, the Dogon have shown Sirius B as 'a small cluster of dots [which] represent the star when it is furthest from Sirius.'

When it becomes possible to observe the Sirius system from a satellite, will we discover something of this kind? Will it be possible to detect, from an observatory based on the moon, the proximity effect and the twinkling - if they truly exist - in less than the fifty years it takes for Sirius B to move around Sirius A? Although it may be years or even decades before we know the answers, these questions should be clearly stated now because, as I have said, predictions are the essence of science and here we have some.

When Oberg says that 'astronomers [do not] believe that any earthlike planets could exist [in the Sirius system] long enough for life to emerge and develop,' does he mean *all* astronomers - or just those with whom he has discussed the subject? He certainly cannot include the many astronomers I have talked with; they tell me that a life-bearing planet could have evolved in the Sirius system.

The consensus of astronomical opinion - I hope Oberg notes the phraseology and learns something from it - seems to be that a life-

bearing planet, if it existed, would have to be in orbit around an outer star in the Sirius system, for if it were in orbit around an inner star, conditions would not be favourable. In fact, this is precisely what the Dogon maintain is the case. Once again we find Dogon information conforming to scientific knowledge.

The Dogon clearly state that this life-bearing planet known as *nyān tolo* or *enegirin* or *emme-girin* (the latter two names being puns on each other) orbits around the star *emme ya* which they say is the third star in the Sirius system and which I have referred to as Sirius C. The Dogon state that this star, Sirius C we may call it, 'travels along a greater trajectory' than Sirius B. It is obviously, then, an outer star. They also say that its orbital period is the same as that of Sirius B, namely fifty years, although another account says thirty-two years.

The existence of these two different figures, both treated as authentic by the priests, suggests that the orbital period may have become garbled. According to Kepler's laws an outer star could not have an orbital period less than that of an inner star, so an outer Sirius C cannot possibly have an orbital period of thirty-two years around Sirius A. On page 26 of my book I show a Dogon diagram of the orbit of the planet *nyān tolo* around Sirius C. This planetary orbit is represented as being clearly elliptical and it protrudes outwards from what appears to be a widely distant orbit of Sirius C around the inner Sirius system. The implication of this diagram is that Sirius C not only has a 'greater trajectory' but is a very far outer star.

The Dogon information about Sirius C's orbital period, then, must be not only garbled (or perhaps concealed in line with a secretive tradition) but only partially true; these figures of fifty years and thirty-two years may represent periodicities in the orbit dependent on C's proximities to Sirius B or something of a similar nature.

Recently the question of a possible third star in the Sirius system has received renewed attention in the astronomical community. Drs Richard Donnison and Iwan P. Williams of the University of London, their interest stimulated by *The Sirius Mystery*, decided to take a closer look at the matter. They have published an article called 'Possible Orbits for a Third Star in the Sirius System' in the technical journal *Astrophysics and Space Science* (56, 1978, pp. 479-82) in which they point out that the visual observations of a Sirius C did not agree with the perturbation thought to be detected in the 1930s in connection with an inner third star but disproved in the 1970s. Regarding a possible Sirius C, they say, 'No visual detection has been made of such a companion since 1929. This does not, however, rule out the presence of a third component orbiting the binary pair at large distances. The visual detection made in the late 1920s might then be explained in terms of projection effects making B and C appear close for a short time. It is, therefore, of interest to determine under what conditions a third body could be present in the Sirius system without disrupting the system.'

In order to simplify the problem Williams and Donnison conceive an orbit on the same plane as Sirius A and Sirius B, although they note that researchers in celestial dynamics have known since 1972 that an orbit of a third body need not be on such a plane at all. But within the limitations of the plane, using computers at the University of London, Williams and Donnison established that the Sirius system would be stable if a Sirius C were present at a sufficient distance.

It was discovered that, starting with the shortest possible stable orbit of 275 years, orbits even up to 425 years would still have only a tiny eccentricity of 0.3 and would be nearly circular. The longer the period of the stable orbit, the greater eccentricity it could have and the more elliptical it could become. But even so, the stable orbits are so nearly circular as to make quite a contrast to the highly elliptical orbit of Sirius B. In view of this, it is a remarkable fact - one that goes even further to substantiate the Dogon information - that the Dogon draw a nearly circular orbit for Sirius C (see page 26 of my book).

Since the Dogon lay such stress on the elliptical nature of Sirius B's orbit, one would assume they would do the same with Sirius C, especially since the planet going around Sirius C also is given a highly elliptical orbit. But they do not! The nearly circular orbit which the Dogon assign to Sirius C is in full agreement with the recently elucidated requirements of celestial mechanics.

In their 1978 paper Donnison and Williams report on hypothetical studies which demonstrate quite clearly that Sirius C, if it is to have a stable orbit close enough to Sirius A to support life conventionally, must have a nearly circular orbit. Thus we see that still another aspect of the Dogon information has been confirmed and found to be accurate. Another aspect which remains to be verified is their contention that Sirius B and Sirius C travel in the same direction.

Critics of *The Sirius Mystery*, Oberg included, claim that the Dogon could have received their extraordinarily detailed information about the Sirius system from white men, specifically missionaries. To check this possibility, I wrote to the Father Superior of the White Fathers Mission in Mali and asked when the first missionaries were sent to the Dogon areas. He replied that the earliest missionaries arrived in 1949. By that time anthropologists had already obtained the Dogon Sirius information. I sent a photostat of this letter to a well-known journalist. He chose to ignore the letter; in a subsequent account he failed to mention what the Father Superior said and asserted that missionaries arrived earlier to implant the Sirius material into the minds of the Dogon.

Could other white men have given this information to the Dogon? We must remember that 1926 is the earliest date at which Sirius B was known in the West to be a white dwarf star. Therefore we must envisage a white physicist who rushed out to Africa in a hurry to tell the Dogon before the French anthropologists arrived in 1931! Every anthropologist with whom I have discussed the possibility that white

men were responsible for the Dogon ideas has dismissed the idea as impossible. Dr Germaine Dieterlen, the world's authority on the Dogon and Secretary-General of the Société des Africainistes, said in a BBC television interview that this notion is 'absurd'. She then held up in front of the cameras an ancient Dogon statue portraying Sirius A, Sirius B and Sirius C together. The statue, she said, is at least 400 years old.

Suggestions that white men gave this knowledge to the Dogon involve other improbable assumptions. And they also ignore the larger body of evidence my book cites. I attempt to show, for example, that the information possessed by the Dogon was known in remote antiquity. To date no one has succeeded in showing that I have erred in any of this material. Superficial critics merely say either that they cannot read that section of my book (which may say something about their reading abilities) or that it is 'unconvincing'. But something that is unconvincing can surely be *shown* to be unconvincing.

Oberg criticizes a geodetic pattern I discovered. This pattern forms an approximately equilateral triangle. He says that one side is really 376 miles and another side is 432 miles (which of course would make it nonequilateral). But the pattern published in my book was drawn by a professional cartographer who earns his living by drawing reliable maps for an international corporation. He measured the same distances with his customary accuracy and found them to be nearly equal to one another and by no means the lengths Oberg claims.

So we face this problem: the cartographer's measurements do not agree with those claimed by Oberg. Which, then, is correct? Oberg does not tell us what techniques he used to do the measurements and instead makes an unsubstantiated statement. Perhaps he is unaware that the differential curvature of the earth variously distorts distances shown on maps. The cartographer took all such factors into account. Did Oberg? I suspect not. I actually watched the cartographer check my map, since I refuse to publish any map that has not been expertly vetted in that way.

Oberg criticizes me severely for my work in ancient languages but fails to substantiate any of his arguments. He produces no examples to show where I am wrong except for the one about the sirens, which is something I *never said*.

In my view it is pointless to attack someone in print unless you can substantiate what you are saying. Since Oberg cannot do so, we need not concern ourselves with his criticisms of *The Sirius Mystery*.

DISTORTED EVIDENCE FROM E. C. KRUPP (1977)

In 1977, the Director of the Griffith Observatory in Los Angeles was Dr E. C. Krupp. The Observatory published a small magazine called the *Griffith Observer*. In the September 1976 issue of this magazine a very

long and favourable review of my book appeared by Thomas Lee Sever, of the McDonnell Planetarium in St Louis, Missouri (pp. 8-15) containing twelve illustrations and saying that I had written 'an extremely well-written and documented book.' The article gave detailed attention to many of my most important points, examining them and commenting on them favourably, and thus continued the friendly astronomical coverage of my book which had commenced in *The Observatory* and *Nature*. Sever had obviously done this by responding to the journal's invitation to review my book. This seems to have infuriated E. C. Krupp, who published a two-page postscript of his own to Sever's article entitled 'On Not Taking It Seriously', acidly observing that whereas 'We are very grateful, therefore, to Mr Tom Sever for his report ... Temple's conclusions are so unorthodox ... that his evidence and his handling of it demand the most careful review.' Krupp cast aspersions on my work and concluded the whole mystery was more likely 'either a collection of good and bad guesses or a garbled record of old and recent astronomical traditions'. He ridiculed the fact that the Dogon spoke of the four invisible Galilean satellites of Jupiter by sarcastically saying: 'Jupiter has at least fourteen satellites, and visiting spacemen inclined to pass this kind of fact along should have been more accurate.' This implies that some spacemen landed and chatted with the Dogon, and weren't specific enough - a complete nonsense supposed to be my fault! For an astronomer to make this cheap point about the moons of Jupiter is all the more disappointing in that any astronomer knows perfectly well that there are only four *major* moons of Jupiter, and the rest are tiddly little bits of rock which are only called 'moons' for lack of a twofold terminology excluding such space rubbish from being granted the dignity of the name of 'moon'. Nor is there any certainty that those bits of space junk were circling Jupiter anyway in 3500 BC when I have proposed a possible extraterrestrial visit to Earth. Anyone actually travelling through space must differentiate terminologically between a genuine moon and a bit of rock! Our own astronomers often question, in fact, whether Pluto should really be called a planet. When we start getting out and about in space more, we shall have to refine our terminology. But even assuming that none of this were relevant, and that extraterrestrial visitors spoke to earthlings of the moons of Jupiter and said there were four large and ten small, and did so 5,500 years ago, should we dismiss the entire Sirius Mystery because the Dogon didn't mention it?

The *Griffith Observer* brought out a special issue in July 1977, on the theme of 'Assorted Ancient Astronauts'. E. C. Krupp wrote a very long article called 'The van Daniken Phenomenon' in which I was mercifully not mentioned. But in the issue for October 1977, a Jewish scholar of the Hebrew Union College in Los Angeles, Marvin Arnold Luckerman, wrote an article called 'More Sirius Difficulties' inspired by the discussion of my book but consisting entirely of his own ideas

about ancient Sirius lore, which were very interesting. The chief attraction of the article to me was the spectacular photograph of Sirius B taken by Lick Observatory which accompanied it, and which I had never seen. Luckerman wrote to me in July 1978, and sent the article. That was the first time I had ever heard of the *Griffith Observer* and I immediately wrote asking for copies of the earlier material, which I eventually received.

E. C. Krupp wrote on 21 November 1977, to my literary agents in New York, requesting permission to reproduce in a forthcoming book by himself an illustration from *The Sirius Mystery*, and enclosing his version. They passed this request on to me, fortunately. If they had granted a routine permission Krupp could have said I had approved. My reply to Krupp of 5 December expresses my awareness of his intentions and refuses cooperation:

'The illustration to which you refer [Figure 9 in the revised edition of the book] was originated by myself and then professionally drawn for reproduction by an artist, from my own non-professional drawing.

'I would caution you to take note of the qualifications expressed in the caption.

'I cannot extend to you permission to use the illustration ... The top left of your redrawing is a gross distortion of the Dogon diagram. I could never condone its use in connection with my name in any event. ... You do not have my permission to reproduce your drawing as it stands in any edition of your book...'

What Krupp or the *Griffith Observatory* had done was to mis-draw the Dogon diagram of the orbit of Sirius B and use this to recreate my 'extension-through-time' drawing so that it no longer corresponded to the modern astronomical version of the same thing. The use Krupp intended to make of this distorted evidence would soon appear.

Meanwhile, two astronomers, evidently a father and son, named Pesch and Pesch, launched a second critique of me in the December 1977 issue of the *Griffith Observer*. They had already published the very same article in *The Observatory*. Now they published it again and called it 'The Last Sirius Inquiry?', and divine vengeance got their first names wrong on the article, where they were called Roland and Poland! E. C. Krupp wrote the introductory remarks, saying of the Pesch and Pesch article that 'still more reinforcements have arrived in this article'. He thus clearly saw an amassing of attacks against me as a crusade, and he was still evidently smarting from the lengthy praise I had received in his own pages from Sever. He had received permission from *The Observatory* to give a further airing to this attack. The Pesch and Pesch article largely concerned itself with Dogon information. But so superficial was their familiarity with the subject that they stated (in their footnote 3) that the anthropologist Germaine Dieterlen had only worked with the Dogon until 1952! The true facts are that as far as I know she is still going there forty-five

years later! At least, she was the last I saw Solange de Ganay in Paris about three years ago.

The Pesches claimed that the Dogon had not said that the orbit of Sirius B was an ellipse, except in a sacred song. They pointed out that one of the Dogon diagrams looked more like an oval than an ellipse, and they said it was a cosmic egg. But their selective use of evidence was such that they completely ignored the very clear Dogon drawings of an ellipse, such as in Figures 4 and 8 of the (revised) *Sirius Mystery*. They also claimed that the Dogon only suggested that Sirius had a companion star because of a necessity to give Sirius a 'twin' due to their obsession with 'twin-ness'. But this ignores the fact that the Dogon specified that there were three stars in the Sirius System –and unless the nature of mathematics has been drastically changed, the last I heard *three* does not make *twins*. Meanwhile, nobody was sending me these issues and I was not aware for some time that I had been re-attacked by Pesch and Pesch in this periodical, so could hardly be expected to reply. In any case, their article was so feeble it wasn't worth replying to. Krupp finally sent it to me in August 1978.

Meanwhile Krupp brought out his book *In Search of Ancient Astronomies*, which contained a section on *The Sirius Mystery* and I was attacked on the basis of Krupp's own redrawn illustration, which he had gone ahead and published despite my protests. He used this distorted evidence which he himself or the *Griffith Observatory* had created, and implied that my conclusions were therefore wrong! The audacity of his doing that still makes me catch my breath.

One of the Pesches, the one named not Poland but Peter, had another go at me in *Nature*, Vol. 283, 28 February 1980, p. 810. He accused me of 'carefully avoiding any reference to articles critical of the claims he makes in his book *The Sirius Mystery*. One such article that readers of *Nature* might wish to know about is Pesch, P. and Pesch, R., *The Observatory...*' I instantly wrote the following reply which *Nature* refused to publish:

'Dr Peter Pesch has in your Correspondence columns ... accused me of 'carefully avoiding any reference to articles critical of' my book, *The Sirius Mystery*. One such is a letter written by him and Dr Roland Pesch in *The Observatory* three years ago. There is no truth whatever in Dr Pesch's assertion. He has at no time contacted me, nor has he any way of knowing that I have seen any such articles. It is necessary for me to respond publicly to his assertion by informing readers that I was ill for a year and unable to work properly for many months on end at the time when the letter of Pesch and Pesch, and some others, appeared. I have never managed to catch up with my work....

Finally, I shall reprint here my reply to an attack in *Nature* by the astro-physicist Michael Rowan-Robinson, in the context of his review

of Carl Sagan's critique of me (see Part I for that saga and my reply). My letter was published in *Nature*, Vol. 283, 17 January 1980:

Readers of *Nature* may well be aware from the review of my book *The Sirius Mystery* in the issue of 17 June 1976 (pp. 617-8), that 'the problem of the remarkable knowledge of the Dogon people of Mali', referred to by Michael Rowan-Robinson in his review of Carl Sagan's *Broca's Brain* (8 November 1979, p. 176-7), was first brought to public attention by myself. Although in his review Rowan-Robinson does not mention me by name, and in his book Sagan barely refers to my seminal position with regard to public knowledge of this material except in passing, anyone truly interested in this subject is perfectly aware that they are referring to myself when discussing this matter.

It would be inappropriate for me to discuss Sagan's own errors here. But I would like to reply to statements made by Rowan-Robinson, who says that 'Sagan has performed a useful service in collecting together examples of public gullibility and demonstrating how a mixture of deliberate fraud and uncritical thinking has allowed millions to be bamboozled...' He says this immediately after discussing my material.

I strongly object to the inference that I have been guilty of fraud in bamboozling a gullible public, and as for 'uncritical thinking', the many serious and thoughtful reviews of my book in this very journal as well as others of distinction testify to the fact that although the implications of my work have aroused controversy, it is not widely thought, nor do I obviously think myself, that 'uncritical thinking' is a fault of which I have been obviously guilty, especially as my conclusions were all explicitly hypothetical.

The anthropologists who have spent the forty-eight years from 1931 living with the Dogon tribe are agreed that the knowledge of the Sirius system which they possessed could not have come from Europeans, who in any case had themselves only discovered the superdense nature of Sirius B in about 1926. Knowledge of Sirius B amongst the Dogon goes back hundreds of years, as shown by physical evidence, some of which was even held up in front of television cameras by Dr Germaine Dieterlen, who insisted that it was 400 years old and said that the European contact theory (espoused by Sagan) was 'absurd'.

But I do not wish to open this controversy again here. It is in the context of saying that Sagan has shown that the Dogon information 'could all have been learnt from contacts with Europeans' (which is untrue) that Rowan-Robinson does me less than justice by saying this is better than it having 'been learnt from little green men in UFOs'. I have never at any time suggested this; I went out of my way in my book to say that I do not believe that UFOs are extraterrestrial craft of any kind, or connected with my subject, and Rowan-Robinson's remarks are therefore a slur against my intelligence and quality of work which I most strongly resent.

Rowan-Robinson also betrays an indefensible bias against the serious possibility that our planet has at some time in its history been visited by intelligent extraterrestrials. What is so remarkable about this *per se*? Are we so incapable of speculating about these matters that we deny them solely because such a visitation seems to us extraordinary? The electric light bulb would have seemed extraordinary to Plato and Aristotle, but does that rule out the possibility of its eventual invention? This is the kind of inverted logic demonstrated by those whose minds are too small for large notions.