

THE INCONSISTENT SUN: HOW HAS IT BEEN BEHAVING, AND WHAT MIGHT IT DO NEXT?

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Various observations showing the sun's behavior to be non-steady over time spans much less than millions of years are cited. The contraction, — which, in the author's opinion, is gravitational, is just one of these. The problem of missing solar neutrinos is well known; some of these observations further contradict the model of solar density distribution derived from the nuclear-fusion model. Suggestions for further research are offered. Also, this latest evidence is correlated with Scriptural prophecies concerning the sun.

Introduction

A previous article¹ dealt with the history of theories explaining the source of the sun's radiant energy, the shortcomings of the nuclear-fusion model, and the recent discovery of solar contraction. In reading that article, one who is familiar with Dr. Eddy's publications² may wonder if I am totally ignorant of the interpretation which he gives to the contraction—one which is quite different from my own. Well, I am neither ignorant of it, nor wishing to suppress it. In fact, it serves as a good starting point for the present analysis.

Eddy (as well as other authorities with whom I have communicated) has avoided the direct clash between contraction on the one hand, and the billion-year myth (BYM) on the other, by believing that: (1) The contraction has not been going on indefinitely, but is only one phase of expand-contract cycles; and (2) Only the outer layers of the sun are involved in the decrease in visual size of the solar disk. The question which immediately arises is, "Why does he so believe?" Well, for one thing, he does say that he believes the sun to be between 4.5 and 5 billion years old³; this, for the sake of consistency, can leave him no choice but such restricted interpretations. On the other hand, I will credit him with great honesty in his admission, "However . . . I suspect that we could live with Bishop Ussher's value for the age of the Earth and Sun. I don't think we have much in the way of observational evidence in astronomy to conflict with that"³. This attitude toward Bishop Ussher's chronology is truly remarkable, considering that Ussher's name has been mentioned in scientific circles (at least since I've been on the scene) only as an object of ridicule.

The only justification for Eddy's acceptance of billion year ages appears in his allusion to paleontology. Now, personally, I find it disappointing (but not uncommon) to hear experts admitting that evidence in their field fails to support evolution and/or vast ages—yet adding that they rely on the conclusions of spokesmen from other fields. The pressing question is whether or not arguments derived from those other fields are any more valid. I remember an evolutionary biologist with whom I was one day discussing radiometric dating. He seemed to know little of the theory of how dating is done; and, when I explained that errors in any of several major assumptions could render the results completely meaningless, he shrugged it off with the statement that he had

read a book on the subject—wherein it was claimed that results are accurate within 10%—so there was no use in my disputing it. Just how much of our so-called science amounts only to faith in someone's (possibly-biased) opinion?

To briefly scrutinize Eddy's "outer-layer only" approach, I would question whether this is anything but ad-hoc speculation. In light of the neutrino dilemma, it is certain that none of the theorists has any knowledge of what's going on inside the sun (except that not many neutrinos are being produced). To trust another's interpretation whose only basis is a *belief* in vast ages—this is unwise, to say the least. Maybe the outer layers *are* contracting more than the core, but maybe the core is contracting faster still—no one knows!

As for the contraction's being cyclic, I looked over Dr. Eddy's published data,² but found no hint of a turnaround at either end of the range (years 1836 to 1953). There may be a slight buckle in the graph from 1875 to 1885, but nothing is evident detracting from a steady lessening trend in size. It might be well to mention that some have disputed Eddy's contraction data; but he has shown that measurements of the solar diameter along different axes (referred to as horizontal and vertical) all show a steady decrease, as do also the observations recorded at different locations. In being careful to avoid systematic errors, Eddy has done a thorough job of making sure that such things as changes in atmospheric conditions could not be making a constant-size sun only *appear* smaller.²

Much, Much Too Fast!

In his reports, Eddy has given only one data-related reason for his belief in cycles (I asked him specifically about this in a private communication, but have as yet learned of no others): the magnitude of the contraction rate. And just how great is it? Approximately 0.1% per century. That may not sound like much (It certainly won't make the sun visibly smaller in our lifetimes), but it is *170 times* the rate of contraction which Helmholtz calculated as sufficient for generating *all* of the sun's radiant energy! So if all of the sun is shrinking together, then there are orders of magnitude more energy being generated inside it, than is being emitted from it. From the BYM viewpoint, I would have to agree that this condition must not have persisted for billions of years (long ago something would have had to give). But since there is really no hint of cycles in the data, and since the myth is running into more and more contradictions from the hard sciences, anyway, why doesn't someone consider

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the possibility that the contraction might be steady (i.e. non-cyclic)—perhaps even accelerating—but characteristic of a sun only tens of thousands of years old? Such a view might even relate to further idiosyncrasies of the sun—such as its non-uniform, and possibly variable,^{4,5} rate of rotation. For a collapsing sun, wouldn't one expect constituents of greater angular momentum to show up at the equator?

Along a totally different line of reasoning, if the changes in dimensions *were* cyclic, on what grounds could we assume that, at certain points in the cycle, the behavior of the sun does not become catastrophic (relative to earth)? It appears that a primary motivation for the uniformitarian assumption (besides the obvious one of trying to explain how the creation could have originated without the Creator) is the one so well described by Immanuel Velikovsky as “cultural amnesia”. The psychological makeup of mankind is such that one feels much safer in *assuming* (hoping) that catastrophic happenings are not the natural (and frequent) course of events. And this desire to believe in a “friendly neighbor” I judge to be a major motivator toward theories which characterize the sun's behavior as steady through vast ages.

A quote from Isaac Asimov is appropriate here, as it also lays bare the evolutionary ties to the steady-sun assumption: “It is just our good fortune that our sun is well balanced. (Actually, that's putting the cart before the horse. If the sun were not well balanced, life would not have developed on earth, or if it had, it would relatively quickly have been destroyed. The mere fact that we are here, then, shows that the Sun is well balanced and there is no need to perspire thankfully over the inevitable.)”⁶

But what of the evidence? Has the sun in fact proved itself to be as reliable as a Swiss watch?

Stuttering Sunspots, and Other Jitters

Since Galileo had the gall to suggest flaws in the celestial realm, solar blotches have captured the imaginations of many. In recent decades it has been noticed that the abundance of these blotches varies with a period of eleven years. But, besides this variation, Dr. Eddy has called renewed attention to the virtual absence of sunspots altogether from 1645 to 1715 (Maunder minimum). He has further remarked that moon rock analysis “indicates that about 10,000 years ago solar activity was much higher than anything experienced since that time”.³

Some years ago I made a practice of noting reports of observations of erratic solar behavior. Consider these examples:

a) Unexpected solar activity which threatened premature termination of the Soviet Salyut 3 space station.⁷

b) A flare of a type never seen before.⁸

c) A noticeable change (1 or 2 per cent in the visible spectrum) in solar brightness over a 25-year period.⁹

d) Flares and explosions of enormous magnitude that defied all previous theories, and which occurred during times when the sun should have been “quiet”.^{10,11,12}

To bring the subject of solar variability up to date, I will point out that one now commonly finds the sun

referred to as a variable star,^{13,14} along with such statements as: “Either the solar constant is slightly (up to 2% since 1972) variable or else solar activity causes correlated changes in the albedos of planetary bodies”.¹⁵ “Actually there are four or five independent lines of evidence consistent with the idea of solar variability . . . the incidence of sunspots and (on earth) auroras, the structure of the solar corona, the concentration of ¹⁴C in the earth's atmosphere, and the temperature at the earth's surface . . . Evidently the seemingly regular behavior of the sun over the past 150 years is not, as solar physicists have long assumed, necessarily typical.”¹⁶ “Its behavior is not constant. Even worse, it's not regular. In fact, only within the past year or two have we begun to realize how truly complex and *capricious* (emphasis added) our sun's behavior is . . . and the implications for life on earth are profound . . . (and, a quotation from Dr. Eddy:) I don't think that such irregularity is a mark of health. I think it's the mark of a shaky, rickety machine.”¹⁷

The Density Distribution is What?

Perhaps the most shocking discovery of all (from the viewpoint of “accepted” solar models) derives from the work of two separate research teams (one Soviet,¹⁸ the other British¹⁹) who, by means of different techniques, have detected radial pulsations of the sun (of amplitude about 10 kilometers). Whereas accepted models of the solar interior predict a period of such vibrations as one hour in duration, both groups of observers have found the period to be 2 hrs 40 min; and both have noted that this value implies that the sun's interior is nearly *homogeneous*!!

Now what billion-year model of the sun could possibly be consistent with homogeneity? The density distribution inherent in the nuclear-fusion model is irreconcilably at odds with these discoveries. So, if the missing neutrinos²⁰ don't demolish all solar models built on the BYM, then surely this 160-minute tremor will!

Before proceeding to the “wind-up”, I should like to list here a few avenues of further research suggested by these recently-discovered solar enigmas—ones which relate crucially to the age of the solar system, and to theories of origins:

a) What would near-homogeneity imply about the sun's age, and about its past history?

b) What rotational characteristics would derive from a rapidly-collapsing star?

c) What might likely happen to a star which is internally generating many, many times the amount of energy it is radiating away?

Thought About the Future—Correlations With Scripture

The last item on the list above stirs up questions of the most important kind: How is the sun likely to behave in the future? In crossing the astrophysical bridge to this issue, let me toss a stone in the direction of the sprawling lake known as “theories of stellar evolution.” Even before the nuclear-fusion model began to falter in the face of scientific observations, it was apparent to any thinking person that the billions-of-years scenario of

stars evolving from this type to that type—that this could amount to nothing but wishful thinking. Surely no one has been around long enough to see a star progress even a small step through any such slow sequence. As for myself, besides possessing the heretical tendency to question things that have merely been assumed (upon posing this challenge to an astrophysical authority, I was told that I shouldn't be so sceptical!²¹), I can now delightfully point to Stephen Maran's conclusion (based on observations, rather than BYM speculations) that a red giant star has become a white dwarf in one thousand years, or less!²²

So, with the realization that vast-age stellar evolution retains no substance worthy of further refutation (some of the latest "imaginative" attempts to fit the observations suggest that the sun contains a black hole at its center, or that the exterior half of the sun's mass was added, with an entirely different composition from the interior half, about 5 billion years ago!²³), let's consider what the really-reliable source—the Bible—has to say. It should first be explained that this assessment of the Bible is not based on mere indoctrination, but is supported by a quarter-century of experience. To be sure, the study of the Scriptural predictions of future events could be labelled as quite scientific—at least as far as their being verifiable by observations. Putting Biblical prophecy to the test, I have found world events to confirm it to the letter.

As just one of many specific examples, I would quote Zechariah 12:3, "And in that day will I make Jerusalem a burdensome stone for all people: all that burden themselves with it shall be cut in pieces though all the people of the earth be gathered together against it." Who could argue that this was anything but divine foreknowledge—as we witness the present world-wide turmoil over the fate of Jerusalem?

The Bible repeatedly mentions the sun, in prophecies of the future. Some of these may well be symbolic; but others are direct, and strike me as relevant to the scientific findings reported in this (and the previous solar-contraction) article. Of these I shall mention only a few (keeping most of my thoughts and interpretations to myself):

(1) Joel 2:31 bluntly states, "The sun shall be turned into darkness, and the moon into blood, before the great and the terrible day of the Lord come."

(2) Jesus is quoted in Luke 21:25-26 as saying, "And there shall be signs in the sun and in the moon, and in the stars; and upon the earth distress of nations, with perplexity; the sea and the waves roaring; men's hearts failing them for fear, and for looking after those things which are coming on the earth: for the powers of heaven shall be shaken."

(3) Finally, as an indirect reference to the sun, but perhaps even more thought-provoking than these former, note Zechariah 14:6-7: "And it shall come to pass in that day, that the light shall not be clear, nor dark: but it shall be one day which shall be known to the Lord, not day, nor night: but it shall come to pass, that at evening time it shall be light."

Consider what might happen (remembering that no man can say what *would* happen—all contemporary solar models have proven themselves bankrupt) as a

result of the sun's internally generating many times the amount of energy now escaping from it. What would occur if the sun were to "blow its stack"?²⁴ Might material from the sun be hurled into space in such a way as to make the remaining core appear darker, the moon glow red, and the sky light up around the clock? Even charged particles and electro-magnetic effects could give rise to a continually-glowing sky—could they not? Who is to say? Certainly not the "experts," many of whom will undoubtedly revamp their BYM models, which the data have so thoroughly discredited. They'll refurbish them, and before long claim that they "predicted" the recent shocking discoveries which I have mentioned above.

No, only time will tell—and most likely not billions of years of it, either!

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