Re: Rebuttal to Lesages Shadows (New mods on 1/20)

Source: http://sci.tech−archive.net/Archive/sci.physics/2005−01/8841.html

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Date: 01/23/05

Date: Sun, 23 Jan 2005 19:53:44 GMT

greywolf42 <mingstb@marssim−ss.com> wrote in message
news:Lz_Gd.657$rc4.142@fe07.usenetserver.com...
> *A Rebuttal to the Claims in "Lesage's Shadows*"*
> **http://www.mathpages.com/home/kmath131/kmath131.htm*

Shadow has made yet more changes to the "Shadows" webpage, on January 20th.

http://groups−beta.google.com/group/sci.physics.relativity/msg/2080fab1f8cc1
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This post addresses the substantive (non−editorial) changes made between January 15th and 20th. Changes are in the order they occur in the page.

Shadow has once again deliberately distorted Le Sage's hypothesis. Le Sage's model is not complex, but Shadow can't seem to post anything remotely resembling it. From Roseveare, p 109:

"Le Sage conceived of matter as being built up of indivisible particles in the form of cages with bars of extremely small diameter. Space was continually traversed by gravific particles of extremely high velocities in all directions and rarely collided with each other. An isolated body in space would not be moved by these gravific corpuscles because it received an equal number of impulsions (from the corpuscles hitting the cage bars) on all sides. If another body was brought up towards this previously isolated body, the latter would be shielded to a certain extent by the former from the corpuscles approaching from that direction. The equilibrium of impulsions thus disturbed, the bodies would be pushed towards each other as if they were attracted."

"'It is not necessary to be very skilful to deduce from these suppositions all the laws of gravity, both sublunary and universal (and consequently also those of Kepler, etc.) with all the accuracy with which observed phenomena have proved those laws. Those laws, therefore, are inevitable consequences of the supposed constitutions.' (W. Thomson, 1873, p 323)' 'On the ultramundane corpuscles of Le Sage.' Phil. Mag (Ser. 4), 45, p321−32."

Most of the following changes are merely Shadow (falsely) asserting that "Le Sage's" model is based on a "radiation field." Shadow wishes to replace "ultramundane corpuscles" with simple photons of unstated energy. Because that is an easier target.

Change #1: (Historical "section")

The first mention of Le Sage in the webpage. Shadow has changed the following description:
>Lesage suggested ... that space is filled with some kind of radiation
>streaming uniformly in all directions, not interacting with itself, and
>massive bodies intercept a fraction of the radiation striking them, so they
>cast shadows. If two massive bodies are brought close together, they
>partially shield each other from the radiation, resulting in a net force on
>each body toward the other. The radiation was supposed to consist of tiny
>particles, which Lesage called "ultra−mundane particles", moving at very
>high speed in all directions, and with a nearly infinite mean free path.

into the following:
>Lesage suggested ... that space is filled with an omni−directional
>radiation field consisting of tiny particles − which Lesage called
>'ultra−mundane particles' − moving at very high speed in all directions,
>and with a nearly infinite mean free path. These ultra−mundane
>particles cross each others' paths but do not interact or interfere
>with each other in any way.

That's not Le Sage's model. Only waves don't "interact" with each other in any way.

>However, massive bodies intercept a fraction of the radiation striking
>them, so they cast shadows. If two massive bodies are brought close
>together, they partially shield each other from the radiation, resulting in
>a net force on each body toward the other.

Again, Le Sage uses corpuscles. Not radiation.

Change #2: (Historical "section")

The next paragraph contains the following sentence:
>Of course, in order to give a force that is proportional to the mass rather
>than to the size of an object, it is necessary for macroscopic bodies to be
>almost perfectly transparent to the ultra−mundane particles, so only a tiny
>fraction of the particles passing through an object are actually
>intercepted.

The phrase "...it is necessary for..." is replaced by:

>"...and to explain why saturation does not occur, i.e., why there is no
>apparent depletion of the capacity for gravity in the vicinity of massive
>bodies, we must suppose that ..."

This is a change made in response to my identification of the source of "Shadows" history (Roseveare).
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"and it also avoids the saturation problem."

This phrase is the key that confirms "Shadows" is relying on a distorted rendition of Roseveare's text. "Shadows" does not provide any mention of a saturation problem at any other point . but Roseveare did. And it did so in just the same relation to the rest of the narrative.
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By merely stating a definition of saturation, Shadow attempts to deflect the criticism.

Change #3: (Intro Physics of the LeSagian mechanism)

The illustration of Darwin's model (which "Shadows" titles the "Fatio−Lesage Model") has been changed. Shadow has drawn "bars" that (s)he claims represent the "cages" that Le Sage discussed in his model of matter. An entirely new paragraph has been inserted into the text, immediately below the new figure:

>"It's noteworthy that the bars comprising the 'cages' that hold the
>elementary particles of matter together in the macroscopic body represent
>primitive forces of both attraction and repulsion, "

Once again, "Le Sage conceived of matter as being built up of indivisible particles in the form of cages with bars of extremely small diameter." The particles *THEMSELVES* are cages in Le Sage's theory −− the bars don't connect the 'indivisible particles' together!

Shadow has created a "new" kinetic theory of gravity. One in which the force of gravity is proportional to the *factorial* of the number of elemental particles −− instead of one that is proportional to mass! For the number of bars are proportional to mass −− in Le Sages theory.

In Shadow's new theory, the number of bars is the factorial of the number of elementary particles: (n−1)!. A single neutron or proton would not gravitate at all, because it would have no "bar". A deuteron would have 1 unit of gravitation. A tritium nucleus would have 3 units of gravitation. An alpha particle would have 6 units of gravitation. (etc.)

> but no attempt is made to
>account for these essential forces in any mechanistic sense.

That's because there is no such thing. Le Sage's "cage" model was developed in 1750. Long before elemental particle models of matter existed. Contemporary Le Sagian models don't require cages for matter models.

> It's also worth
>noting that the ultra−mundane particles do not comprise a fluid, they

>comprise an omni−directional radiation field, which is an entirely
>different concept.

Yes, an "omni−directional radiation field" *IS* a *completely* different concept from Le Sage. It is nothing more than the "light−pressure" kinetic model. Shadows has simply replaced the word "photon" with "particle."

> In a fluid, contiguous elements are in equilibrium with each other,

Not all fluids are in equilibrium. It depends upon the scale of the effect versus the mean free path of the particles.

>whereas in the Fatio−Lesage radiation field there are streams of
>ultra−mundane particles moving arbitrarily close to each other in opposite
>directions. The state of this omni−directional flux is the conceptual
>opposite of thermodynamic equilibrium.

And it has nothing to do with either Fatio, or Le Sage. But since Shadow finds even historical models too difficult to attack, (s)he simply makes up strawmen. There is no such thing as a "Fatio−Lesage radiation field."

Change #4: (Intro Physics of the LeSagian mechanism)

The following paragraph has been deleted:
>Moreover, the structure of matter actually proposed by Lesage consisted not
>of particles, but of a lattice of elemental bars forming a mesh of 'cages',
>which he was compelled to postulate in order to account for the structural
>stability of matter with seem to appeal to any elementary attractive
>forces. Needless to say, Lesage's proposed structure of matter has now been
>falsified, and it's easy to see this structure was logically untenable to
>begin with, because the essential tension in the bars of the cages
>represents an elementary attractive force, which is inconsistent with the
>categorical Lesagean rejection of such forces. (We may also mention that
any
>regular lattice structure would tend to exhibit non−isotropic gravity, due
>to the fact that the bars would be aligned with each other more in some
>directions than in others.)

But no one seriously proposed Le Sage's structures as a "real" model of matter. Not even Le Sage. What Shadow ignores is the Le Sagian models that have improved Le Sage's original model.

Change #5: (Intro Physics of the LeSagian mechanism)

The paragraph beginning with the sentence:
>At some finite distance from a fundamental opaque particle of ordinary
>matter its image will become indistinguishable from a point, by which time
>the inverse−square relation will have been totally lost.

has the following parenthetical sentence inserted:
> (Some benefit is gained by large macroscopic aggregates in determining the

>average transmissivity to a precision greater than that of the resolution
>on the individual particles, but it's still necessary for the radiation
field
>to have extraordinary angular resolution, as Lesage himself acknowledged.)"

A bold−faced lie by Shadow. Le Sage never discussed "precision" of angular resolution.

Change #6: (Claims for Gravitational Induction Heating)

The paragraph beginning with the sentence:
>Quantitatively, Lesage's theory implies that the ultra−mundane particles
>impart enough momentum to a planet of mass mp moving in a circular orbit
>with speed vp to completely reverse it's direction every half revolution.

has the following parenthetical sentence inserted:
>(Note that we can exclude from consideration all the reflected particles,
>because these contribute nothing to the net force on a body, e.g., with
>perfect reflection there would be no net force at all. Thus we need
>consider only the absorbed particles.)

Shadow provides merely another assertion. Wrong too. See Slabinsky's paper in "Pushing Gravity", p123. See also p. 183.

Change #7: (Claims for Gravitational Induction Heating)

The paragraph beginning with the sentence:
>"By the way, Thomson also suggested that the slow−moving and rapidly
>spinning (or vibrating) ultra−mundane particles after colliding with matter
>were re−habilitated into fast−moving non−spinning particles by interaction
>with the other ultra−mundane particles. ..."

has the following sentence added onto the end:
>"...The principle of Clausius is not applicable, so Thomson's plausibility
>argument is invalid."

However, Shadow's argument against Clausius rests entirely upon his personal (and unsupported) claim that the corpucles cannot interact with each other. Certainly Thomson thought that they did. An since Shadow is the only person that I've ever known who has made the assertion, I'll trust Lord Kelvin on this one.

Change #8: (Gravitational aberration)

The paragraph ending with the sentence:
>"Of course, the speed of the ultra−mundane particles is many orders of
>magnitude greater than the speed of the planets, so on the time scale of
>the ultra−mundane particles the planets are virtually stationary, which
>implies that they could have no "flinging" effect on the radiation in
>any case, even if a significant fraction of the ultra−mundane flux
>interacted with the planets (which it doesn't)."

Has been changed to:

>"(Of course, the speed of the ultra−mundane particles is many orders of
>magnitude greater than the speed of the planets, so on the time scale of
>the ultra−mundane particles the planets are virtually stationary, which
>implies that they could have no "swirling" effect on the radiation field,
>even if a significant fraction of the ultra−mundane flux interacted
>with the planets − which it doesn't)."

Trivially false. If the above were true, then there could be no winds with speeds significantly less than sonic speed.

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greywolf42
ubi dubium ibi libertas
{remove planet for return e−mail}