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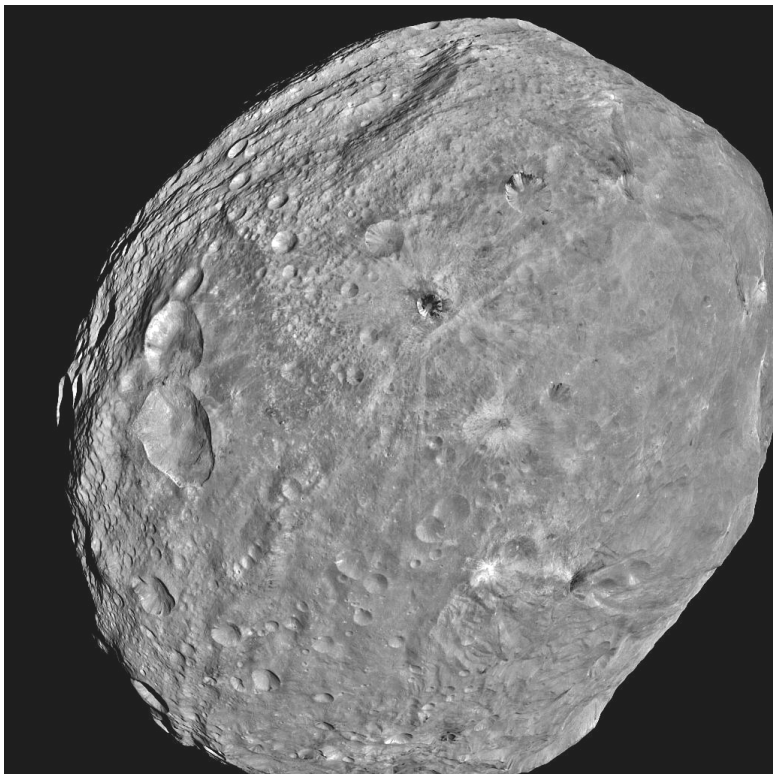

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Front Cover: The third largest asteroid, Vesta, as photographed by the Dawn spacecraft now in orbit about the asteroid. Vesta is 330 miles in diameter (530 km) and is the second most massive of the asteroids. The three craters at right are known as "The Snow Man."

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EDITORIAL

It has been some time since I published a review article on the firmament. In the meantime, a great deal has been learned over the last couple of years. My problem is, how can I write about something so adverse to everyday experience in a compelling and interesting way?

It has long been an editorial policy of *The Biblical Astronomer* not to shy away from highly technical articles. After all, this is the only publication in which the technical aspects of the geocentric models can be presented. The *Creation Research Society Quarterly* banned discussion of things pro-geocentric 31 years ago and has enforced it for the last thirty years. Jim Hanson and I were banned from publishing anything in the *CRSQ* because we're considered likely to present things geocentric that are so subtle no reviewer would recognize it. My approach to the firmament could easily have been an example of that. Back in 1980, the only publication that would present articles on Geocentricity was *The Bulletin of the Tychonian Society*. That no longer exists but in 1991 it was replaced by *The Biblical Astronomer*; ergo, the technical articles have to be included as well as general interest ones.

The plan is to finish the article on the firmament in the next issue, Lord willing, and I will also provide a write-up of a relationship between the 2.7K cosmic black body radiation and one of the properties of the firmament. The source of the background radiation is commonly believed by evolutionists to be a by-product of the big bang; Creationists point out that is also the temperature of the universe or the Milky Way if at the creation the elements were synthesized in the place or object of creation and the resulting radiation was converted to heat. Well, the firmament provides a third explanation. I did not present it in this issue because some additional checking of the results is necessary.

William Roger Corliss (1926-2011)

It is also my sad duty to announce the passing of William Roger Corliss on 8 July 2011. He died of a heart attack at 84 years of age. Corliss was a physicist (M.S., physics from the University of Colorado in 1953). In his early years, he worked in the nuclear industry and authored some books for America's Space Program. In 1974 his interest in scientific anomalies led to the publication of a series of volumes on those anomalies by the Sourcebook Project. Each volume was ring-bound and covered a specific field such as astronomy, geology, and anthropology.

Although Corliss was not a direct contributor of articles to both the *Bulletin of the Tychonian Society* and the *Biblical Astronomer*, he

did allow us to reprint news blurbs in "Panorama" from his *Science Frontiers*. In the late 1980s his Sourcebook Project sold the first book on Geocentricity, *With Every Wind of Doctrine*. His specialty was to collect and reprint articles and books that dealt with events and accounts that run contrary to established science.

The Sourcebook Project and its publications die with him. Those interested can view the web page he reluctantly set up at http://www.science-frontiers.com/. While they last, his books and writings will be available from the web site.

Corliss was not one to subscribe to new ways of doing things. For instance, he always used a typewriter, never a word processor. The volume of spam drove him away from email—something I, too, am often tempted to do. In my case, I've compromised; I check email once or twice a week. That way it is easier to mark everything for deletion and uncheck only those emails worthy of attention.

About six weeks ago, I was struck with Bell's Palsy. I don't look as funny as I did then, but I still cannot smile except it looks like the :-\ emoticon. The ailment makes me tired and has affected my right eye, which has trouble blinking and closing. This has also been the first year, so far at least, that we have not taken a vacation trip. With apologies to all the good doctors out there, my prayer is still, "Lord, please keep me out of the hands of the doctors!" I know you good doctors will understand. Besides, I read Obama's Medicare bill before Congress voted on it—without reading it. Just a word to the wise: it consisted mainly of creating appointed committees who will decide what the bill will finally say. Remember when the house speaker, Nancy Pelosi, said words to the effect of: "We have to pass this bill so we can find out what it says"? Well, that was one time that she told the truth.

I hope to have the Summer issue ready within a month or so. In the meantime, I recommend you stock up on food (3 months worth, at least) and junk silver. I better remind myself to follow my own advice…. The future looks bleak for not just the United States, but for the entire world. Long-time readers may recall my article entitled "Entropy and Economics" which proved scientifically that a one-world government such as man conceives of it can't help but end in disaster. That's just how God created the universe.[1]

[1] Bouw, G. D., 1999. "Entropy and the New World Order," *B.A.*, **9**(93):5. Or see http://geocentricity.com/ba1/nwo.pdf.

GEOCENTRIC MECHANICS II: FOUCAULT PENDULUM ANALYSIS

Prof. James N. Hanson

Abstract

The geocentric equation of motion and forces acting upon the Foucault pendulum is established.

Introduction

I have not been able to find a thorough analysis of the Foucault pendulum. One would think that this monumental experiment, that purports to demonstrate and measure the earth's rotation, would have been analyzed in great detail. Kamerlingh Onnes (1853-1926)[1] is credited with constructing the first Foucault pendulum that, for over an hour, performed as a Foucault pendulum is "supposed" to behave. But Onnes' pendulum was not a Foucault pendulum; it was something else. It did not hang from a pivot but alternately swung about one knife-edge and then the other. However, it did qualitatively precess in the manner that the Foucault pendulum ought to have done. Onnes did not derive the motion equations for his pendulum, he PICKED them! He also PICKED their solution! He did so, to obtain the desired behavior.

It seems that when it concerns geocentricity, experiments and their analyses get fuzzy. Witness the Michelson-Morley (M-M) experiment, arguably science's most important experiment, which is contrived to prove Copernicus and forever to banish the authority of the Bible. In the M-M experiment, we are presented with a cross-like figure and an unconnected unfathomable unconvincing analysis. Also, note Compton's tea leaf experiment[2] where he solves two equations for three unknowns, one of which, of course, is the earth's rotation. Anything goes if it gives the politically correct answer. Copernicanism is amongst science's greatest sacred cows, along with evolution and relativity.

---

[1] Onnes, H. K., 1879. Dissertation (available from the Rijksmuseum voor de *Geschiedenis der Netuurwetensschappen*, Leiden, Netherlands).
Also Schulz-DuBois, 1979. "Foucault Pendulum Experiment by Kamerlingh Onnes and Degenerate Perturbation Theory," *Am. J. of Physics*, **38**:173-188.

[2] Stommel and Moore, 1989. "An Introduction to the Coriolis Force." Columbia Univ. Press.

It will be the object of this article to present a thorough mathematical description of the Foucault pendulum (i.e. the "simple pendulum" problem) for subsequent analytical and numerical evaluation.

History

Aczel[3] deifies Foucault and man's science. His title, "Pendulum, Leon Foucault and the Triumph of Science," means the triumph of man's science over the Bible. But Foucault's pendulum, the very first such pendulum, needed a ceiling device at the pivot support to force it to move as it should. Aczel makes much of the year 1851 in which Foucault publicly performed his famous experiment. Aczel's claim is that nobody had thought to use a simple pendulum as a proof for the rotation of the earth. However, the mathematical theory for the interaction of the earth's rotation on moving objects was well known to Euler (1707-1783) and that experiments on falling bodies were routinely conducted going back to Newton's (1642-1727) time. In fact, Newton dedicates many pages in his *Principia* to pendulum problems and falling bodies. Aczel, contradicting himself, claimed that hitherto it was believed that the effect would be too small to observe. I suspect, unbeknownst to Aczel, that the experiment, like falling bodies, would have been too difficult to decouple from the earth. It was known that the release of a falling body has very large influence on the subsequent motion. It was believed that the release as well as the friction of the pivot support would render the experiment uncontrollable and, in fact as we shall see, very complicated to model. As an antidote against this supposed ignorance, consider the many pre-1851 pendulum references in Routh's 1860 (1st Ed.) masterpiece on analytical dynamics,[4] which show great sophistication concerning the earth's oblateness and equinox precession? Could science really have been so stupid from Newton until 1851?

Geocentricity

The Foucault pendulum is a demonstration in favor of geocentricity (specifically, against earth rotation). This is so since the correct (true) equation of motion of a mass, *m*, is:

$$m\ddot{R} = -2mw \times \dot{R} - mw \times (w \times R) - m\dot{w} \times R + F \quad (1)$$

as put forth in Part I of this series of articles.[5]

---

[3] 4. Aczel, 2003. *Pendulum: Leon Foucault and the Triumph of Science*, Atria Books.

[4] Routh, 1860. *Advanced Part, Treatise on The Dynamics of a System of Rigid Bodies*, Dover Reprint.

[5] Hanson, 2009. "Geocentric Mechanics I, Geocentricity and Geocentricity and $2\omega\times v + \dot{w} \times r + \omega\times(\omega\times r)$, *Biblical Astronomer*, **19**(129 & 130): 90-94.

Coordinates

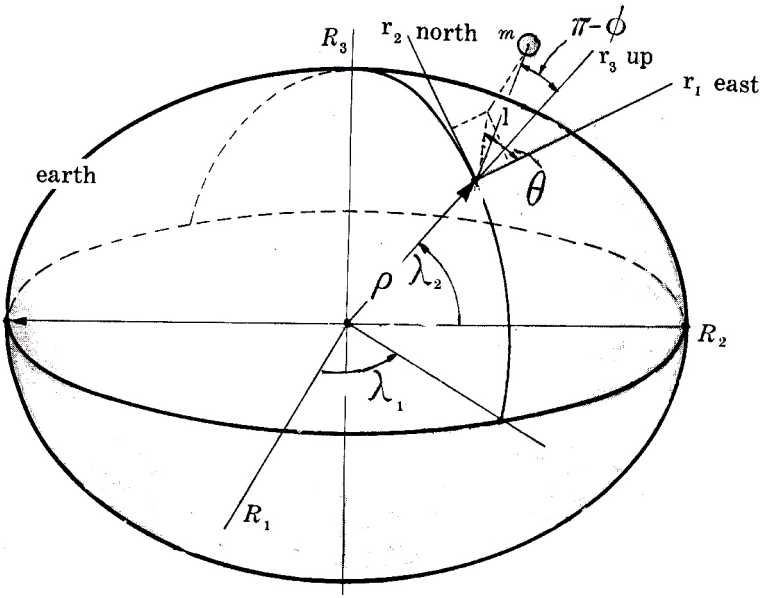

Figure 1: *Coordinate system for the Foucault pendulum's analysis.*

We propose to model the Foucault pendulum, i.e. to obtain differential equations for its motion. Let (R_1, R_2, R_3) be a geocentric coordinate system at the earth's center with the R_3 ordinate pointing north, and R_1 and R_2 ly5ng in the equatorial plane. Let (r_1, r_2, r_3) be a topocentric coordinate system whose origin is at geocentric position r and its r_1-axis is tangent to the meridian[6] and points northward, and the r_2-axis points outward from the direction of the earth's center and is normal (perpendicular) to the (r_1, r_2)-plane (see Figure 1). The topocentric origin is at longitude λ_1 and latitude λ_2. Hence, the geocentric coordinates of the topocentric origin are:

$$\mathrm{r} = (r \cos \lambda_2 \cos \lambda_1,\ r \cos \lambda_2 \sin \lambda_1,\ r \sin \lambda_1) \qquad (2)$$

It will not be necessary to resolve (express) topocentric pendulum positions, such as displacements and velocities, geocentrically since the topocentric system is already fixed to the earth. We write:

[6] The meridian is an imaginary arch that passes through the north pole, directly overhead, and on through the south pole.

$$\mathrm{R} = (R_1, R_2, R_3), \quad \mathbf{r} = (r_1, r_2, r_3) \tag{3}$$

and introduce a spherical topocentric coordinate system (l, ϕ, θ) for the position of the pendulum bob. We thereby incorporate the constraint,

$$r_1^2 + r_2^2 + r_3^2 = l^2 \tag{4}$$

by our choice of coordinates. Here l is the pendulum length, θ is the azimuthal angle measured eastward from the local meridian plane, and ϕ is the bob deflection angle measured from the negative r_3-axis. Hence we have:

$$\begin{aligned} r_1 &= l \sin\phi \cos\theta \\ r_2 &= l \sin\phi \sin\theta \\ r_3 &= -\, l \cos\theta \end{aligned} \tag{5}$$

The final version of the equation of motion, equation (1), must contain only the spherical coordinates (l, ϕ, θ) and be expressed with respect to geocentric coordinates (R_1, R_2, R_3). The inverse transformation is:

$$\begin{aligned} l^2 &= r_1^2 + r_2^2 + r_3^2 \\ \cos\phi &= -r_3/(r_1^2 + r_2^2 + r_3^2)^{1/2} \\ \tan\theta &= r_2/r_1 \end{aligned} \tag{6}$$

where $\tan\theta$ is the result of the two arguments, r_1 and r_2 thus giving the correct quadrant. We next formulate the various forces acting on the pendulum.

The Equation Of Motion

From equation (1), the geocentric equation of motion becomes equation (7), namely:

$$\ddot{R} = -2w \times \dot{R} - \dot{w} \times R - w \times (w \times R) + \sum_i F_i(l, f, q)/m \tag{7}$$

where w is the rate at which the firmament rotates about the earth. This rate is once per sidereal day, which in tropical seconds is 7.29211e-5 rad/sec.[7] $\boldsymbol{R}$ must be converted to functions of (l, ϕ, θ). The $\boldsymbol{F}_i$ are the

[7] 7.29211e-5 is the same as 7.29211×10^{-5} or 0.0000729211.

individual forces acting on the pendulum expressed in (l, ϕ, θ). To model these forces with exactitude is not possible nor is it necessary for our purposes. We seek to pick models that are qualitatively viable in order to appraise their effects. Some forces, such as gravitation, may be quite precisely stated whereas friction may not be.

FORCES ACTING ON THE PENDULUM

Pivot Force

The pivot support friction can be thought of as having two components, one due to swinging, and the other due to twisting. Twisting occurs due to the pendulum plane's precessing. We will assume that the sum of these components to be in the negative direction of the motion:

$$F_P = -c_P \left|\dot{r}\right|^{n_P} (\dot{r} / \left|\dot{r}_1\right|) \approx -c_P \left|l_0 \dot{f}\right|^{n_P - 1} \dot{r} \tag{8}$$

where c_P and n_P are empirical constants, and l_0 is the unstressed length of the pendulum string. Onnes[18] greatly reduced friction to the extent that his device behaved well for over an hour.

Air Drag

The bob will encounter air drag as it moves. Routh[9] argues for air resistance to be composed of the sum of a linear and quadratic velocity terms:

$$\begin{aligned} F_d &= -\left(c_d \dot{f} + c'_d \dot{f}^2\right) / \left(\dot{r} / \dot{r}_1\right) \\ &\approx -\left(l_0 \left|\dot{f}\right|\right)^{-1} \left(c_d \dot{f} + c'_d \dot{f}^2\right) \end{aligned} \tag{9}$$

We shall adopt Routh's model, which has historical and experimental justification.

Earth's Gravity

The force of gravity is given by the geoid's mass potential function:

$$\boldsymbol{F}_g = m \, \mathbf{grad} \, [\mathrm{U}(R_1, R_2, R_3)] \tag{10}$$

---

[8] Cf. footnote 1.
[9] Footnote 4, p. 255.

To include the effect of oblateness we may use the approximation (8):

$$U = -GM_e/\rho + (^1/_{10})GM_eR_e^2\varepsilon^2(R_1^2+R_2^2+R_3^2) + \ldots \qquad (11)$$

where G is constant of universal gravitation, and M_e the earth's mass and $\varepsilon = 1/300$ is the earth, mechanical ellipticity. We shall represent this force by two terms: the first term is the customary g = 980 cm/sec/sec, and the second is due to the earth's oblateness:

$$\mathbf{F}_G = \mathbf{F}_g + \mathbf{F}_b \qquad (12)$$

where:

$$\mathbf{F}_g = m\ \mathbf{grad}(-GM_e/r) = mg\ (r/|r|) \qquad (13)$$

$$\mathbf{F}_b = m\ \mathbf{grad}(1/10)GM_eR_e^2\varepsilon^2(R_1^2 + R_2^2 - 2R_3^2) \qquad (14)$$

Additional terms for U may be incorporated. The next term is of the order r^{-5} and produces a non-radial force.

Lift

The lift (Magnus effect) on a cylinder is usually represented by:

$$F_L = (1/2)c_L dA\left(l_0\dot{f}\right)^2\left(l/|l|\right) \qquad (15)$$

$$\approx -\left(\frac{1}{2}c_L dAl_0\right)\dot{f}^2 l \qquad (16)$$

where c_L is the lift coefficient, d the air density, and A the bob's aspect area. As the pendulum swings, the bob performs a back rotation against the air, thus exhibiting a Magnus effect during all phases of the swing cycle.[10]

Sun and Moon

Let M_s be the sun's mass and r_s the sun's distance, then:

$$\mathbf{F}_s = GmM_s\, r_s^{-2}\,(\cos\lambda_{2s}\cos\lambda_{1s},\ \sin\lambda_{2s}\cos\lambda_{1s},\ \sin\lambda_{2s}) \qquad (17)$$

where λ_{1s} and λ_{2s} are the longitude and latitude of the sun's direction.

[10] Kahn, 1967. *Fluid Mechanics*, pp274-275, Holt, 1967. Also see Rouse, 1940. *Elementary Mechanics of Fluids*, pp276-277, Dover.

A similar equation is derived for the moon's gravitational force, $\boldsymbol{F}_{\mathrm{m}}$.

The Osculating Pendulum

It is desirable to represent various effects that impinge upon the behavior of the pendulum by an equivalent force. If, while the pendulum is swinging, all forces were terminated, except the earth's spherical gravity, then the bob would become the "ideal pendulum" with its period very well approximated by:

$$\mathrm{P} = 2\pi(l/\mathrm{g})^{1/2}. \tag{18}$$

This relates the period, string length and mass. If the period is changed by a small amount $\Delta\mathrm{P}$, then this may be thought of as causing a corresponding change in g, given that $\Delta\mathrm{g}$ did not change:

$$\Delta\mathrm{P} \approx (\partial\mathrm{P}/\partial\mathrm{g})\Delta\mathrm{g} = -(1/2)\mathrm{P}\ (\Delta\mathrm{g}/\mathrm{g}). \tag{19}$$

And, hence the effective acceleration produced is:

$$\Delta\mathrm{g} = -\ 2\mathrm{g}\ (\Delta\mathrm{P}/\mathrm{P}) \tag{20}$$

or the effective force produced is:

$$(\mathrm{m}\ \Delta\mathrm{g})_{\mathrm{P}} = -2\mathrm{mg}\ (\Delta\mathrm{P}/\mathrm{P}). \tag{21}$$

Similarly, for a change in l with P constant, where, in this case, we would use:

$$\mathrm{G} = l\ (2\pi/\mathrm{P})^{-2} \tag{22}$$

and obtain:

$$\Delta\mathrm{g} = (\partial\mathrm{g}/\partial l)\Delta l = (2\pi/\mathrm{P})^{-2}\ \Delta l = \mathrm{g}(\Delta l/l); \tag{23}$$

therefore:

$$(\mathrm{m}\ \Delta\mathrm{g})_{l} = \mathrm{mg}\ (\Delta l/l) \tag{24}$$

Equations (21) and (24) approximate an equivalent force for a change in g or l respectively. Replacing an effect by a force is superior to treating the effect kinematically whereby the effect must be incorporated by algebraic substitution at each of its occurrences in the equation of motion. First, the effect is actually caused by some underlying force,

and secondly the use of force incorporates the effect dynamically, which simplifies the analysis.

String Curvature Effect

As the bob swings, the string assumes a curved shape and thereby shortens its length. We seek to represent this effect as a force, $\boldsymbol{F}_e$. Armstrong,[11] as well as Epstein and Olsson[12] have analyzed the effect of a flexible string on the period of a simple pendulum. We especially note Epstein's equation 17:

$$\Delta P = (-1/12)\ (m_c/m)P$$

where P is the simple period, and m_c is the mass of the string. Hence the catenary-like sagging of the string shortens it by an amount Δl which can be simulated by a change in g from equation (20):

$$\Delta g = -2g\ (\Delta P/P) = (1/6)(m_c/m)g, \tag{25}$$

which, expressed as a force, is:

$$\mathbf{F}_c = (1/6)\ m_c g\ (\boldsymbol{l} / |\ l\ |) \tag{26}$$

String Elasticity

The string stretches under the varying force due to the bob.

Let k be the modulus of elasticity of the string, then applying Hooke's law acting in the direction of the string:

$$\mathbf{F}_e = -k\ (l - l_0)\ (\boldsymbol{l} / l\ ) \tag{27}$$

where l_0 is the unstretched string length. Of course, the string may be so overloaded that it does not obey Hooke's law.

Thermal Expansion Effect

The string, especially wire, will expand or contract from its reference length, l_0. Let T_0 be the ambient temperature of this length. As the temperature changes, the string length will change according to:

$$\Delta l = \mu l_0\ (T - T_0) \tag{28}$$

---

[11] Armstrong, H., 1976. "Effect of the Mass of the Cord on the Period of a Simple Pendulum," Am. J. Physics, **44**(6):564-560.

[12] Epstein and Olsson, 1977. "Comment on Armstrong's Paper", Am. J. Physics, **45**(7):671-672.

where μ is the coefficient of thermal expansion. We again regard this as a force, and by equation (23):

$$\Delta g = g\mu l_0 (T-T_0)/l_0 \tag{29}$$

and:

$$\mathbf{F}_t = -(mg\,\mu\, l_0 (T-T_0)/l_0)\, \boldsymbol{l} / l. \tag{30}$$

Other Forces

We have thus far covered forces that can be somewhat accurately stated mathematically, and these forces will be included in the eventual numerical and analytic evaluations. Here, we wish to mention many other forces that might influence the pendulum's motion.

There are a number of forces that arise from electromagnetic theory as applied to earth's ambient fields. The force due to an electric and/or magnetic field acting on charge q is given by Lorentz's law:

$$\mathbf{F}_{em} = q\,\mathbf{E} + q\,\mathbf{v} \times \mathbf{B} \tag{31}$$

where **v** is the bob's velocity in the topocentric system and **E** and **B** are the earth's electric and magnetic fields. If current paths are induced into the bob then equation (31) can be adapted to compute these forces. Additional terms of the geoid potential function produce forces, which, though very small, nevertheless yield measurable long-term effects. Various theories for gravity such as shadowing-attenuation[13] would result in deviant motions, especially during solar eclipses.[14] Earth vibrations produce difficult-to-quantify forces; likewise for air pressure and humidity effects. Aerodynamic effects such as boundary layer forces give rise to such complications as Schlichting's equation.[15] Pivot wear and forces other than friction occur; also string whipping and vibrations. Various forces may conspire to produce torques that render the problem one of rotational dynamics. For example, the Magnus effect is accompanied by Blasius's torque.[16] The effects of precession and nutation of the sky (firmament) should be added to the diurnal rate, too.

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[13] Assis, 1999. *Relational Mechanics*, Apeiron.

[14] Alais, 1998. "Should the Laws of Gravitation be Reconsidered?" *21st Century*,pp21-33, Fall. Also see Majorana, 1920. "On Gravitation," *Philosophical Magazine*, **39**:388-504.

[15] McCormack and Crane, 1973. *Physical Fluid Dynamics*, Academic Press.

[16] Spiegel, 1964. *Complex Variables*, Schaum Publ.

Force Estimates

Estimates for the relative significance of the formulated forces will be computed. The following table gives representative values for constant and parameters.

To evaluate the average velocity, $\mathbf{v}_{ave}$ in the table, for a simple pendulum we may use the exact solution for the period:

$$P = 2p\sqrt{\frac{l_0}{g}}\left(1 + \left(\frac{1}{2}\right)^2 a^2 + \left(\frac{1.3}{2.4}\right)^2 a^4 + \ldots\right) \qquad (32)$$

where a=sin(ϕ_0/2) for initial release angle ϕ_0. Let ϕ_0 = 10 deg then a=.08716 and P=2$\pi\sqrt{}$(1000/978) (1+.00190+8.114e-6) = 6.365 sec and

$$v_{ave} = 2l_0\phi_0/P = 54.84 \text{ cm/sec} .$$

We calculate the bob's aspect area from:

$$\text{Volume} = \text{Mass/Density} = 10000/5 = 2000$$

from which the radius is obtained from:

$$2000 = (4/3)\,\pi\, r^3$$

giving r = 7.816 cm and an aspect area of A = $\pi\,(7.816)^2$ = 191.9.

In order to calculate the cord's elasticity modulus we assume an iron cord of length 1000 cm of density 7 gm/cm. Hence, the cross-sectional area is m/(7 x 1000) = .00143 cm and radius 0.0213 cm., and then the elasticity modulus is k = 1e–5 as can be estimated from the handbook tables.[17]

We may now compute the following table of comparative acceleration magnitudes where each force is thought of as a perturbation, Δg, of the basic simple pendulum acted upon only by the acceleration due to gravity, g. Each force will be divided by mg, giving a relative acceleration per unit mass of the bob, thus giving Δg/g per unit mass from which the associated ΔP/P follows from equation (19):

$$\Delta P/P = -(1/2)\,(\Delta g/g)/(mg). \qquad (33)$$

[17] Baumeister et al., 1978. *Standard Handbook for Mechanical Engineers*, McGraw-Hill, 8th Edition.

Table 1: Constants and Physical values in cgs units.

m	gm	10000	pendulum bob mass, density = 5
m_c	gm	10	pendulum string mass
λ_1	rad	0	geocentric longitude of pendulum
λ_2	rad	$\pi/4$	geocentric latitude of pendulum
ρ	cm	6.378e8	geocentric distance to pendulum
l_0	cm	1000	pendulum string length
ω	rad/sec	7.1292e-5	sidereal rotation rate
c_p		1e-5	pivot friction coefficient
n_p		2	pivot friction coefficient
c_d		0.6	air drag coefficient
c'_d		0.6	air drag coefficient
G	$cm^3/gm\text{-}sec^2$	6.67e-8	gravitational constant
R_0	cm	6.357e8	earth radius at the pole
R_e	cm	6.378e8	earth radius at the equator
g	cm/sec^2	978	acceleration due to gravity
M_e	gm	5.976e27	earth mass
c_L		0.5	aerodynamic lift coefficient
A	cm x cm	191.9	bob aspect area
δ	gm/cm^3	1e-6	air density
M_s	gm	1.989e33	sun mass
M_m	gm	7.344e25	moon mass
r_s	cm	1.49e13	sun distance
r_m	cm	3.84e10	moon distance
μ		2e-5	linear thermal expansion coefficient
T_0	kelvin	273	reference temperature
T	kelvin	300	ambient temperature
λ_{15}	rad	0	sun geocentric longitude
λ_{25}	rad	0	sun geocentric latitude
λ_{1m}	rad	0	moon geocentric longitude
λ_{2m}	rad	0	moon geocentric latitude
P	sec	6.365	simple pendulum period
v_{ave}	cm/sec	58.84	simple pendulum velocity
k		1e7	string modulus of elasticity

Table 2: Comparison of Perturbative Forces				
Force	**Symbol**	D**g/g**	D**P/P**	**Notes**
Simple grav.	F_g	1	0	
Centrifugal		3.4e-3	1.7e-3	Maximum
Coriolis		8.8e-6	4.4e-6	Maximum, $v=v_{ave}$
Euler		0	0	Not considered here
Pivot fric.	F_p	3.1e-9	1.5e-9	$v=v_{ave}$
Air drag	F_ϕ	3.4e-9	1.7e-9	$D\phi = v_{ave} / l_0$
Earth bulge	F_b	5.5e-3	2.6e-3	See footnote 6, p 284
Lift	F_L	1.5e-8	7.5e-9	
Sun grav.	F_s	6.1e-4	3.0e-4	
Moon grav.	F_m	3.4e-6	1.7e-6	
Catenary (sag)	F_C	1.4e-4	8.5e-3	
Elasticity	F_e	1.0e-3	5.0e-4	
Therm. expan.	F_t	5.4e-4	2.7e-4	

All these forces supply a very small effect on the pendulum's motion. However, if applied over a long period of time, any may come to dominate the motion. I cannot but believe that an analysis such as this one was not performed before Foucault, and in more detail, by Newton, or Euler, or Huygens, or LaPlace, or etc.

CAN GEOCENTRICITY SUPPLY AN EXPLANATION OF TWO EXPERIMENTS?

Prof. James N. Hanson

It has come to my attention that two recent experiments, as well as many others, might be explainable in a geocentric cosmology. The two experiments are:

1. Everitt et al., 2011. "Gravity Probe B: Final Results of a Space Experiment to Test General Relativity," *Physical Review Letters*, **106**:221101, 3 June.
2. "The Watt Balance," Bureau International des Poids et Mesures; various web addresses.

The first experiment measures two relativistic effects:

1. Frame dragging due to the earth's supposed rotation[1] and
2. a geodetic drift in the satellite's orbit plane which drift is due to the curving of space by the earth's mass.

The authors claim a high degree of agreement between observation and theory for the first experiment.

The second experiment, the Watt Balance, measures the increase in mass from 1890 to 1990 of the international standard kilograms produced in the 1880s. The increase is about 50 micrograms in each standard mass.

Both these experiments are very complicated and I do not yet, fully understand them. However, from what I have gleaned, it seems that geocentricity might provide an explanation.

The customary relation of forces to the motions they produce is:

$$\boldsymbol{F}=m\boldsymbol{a}, \text{ where } \boldsymbol{a}=\ddot{\boldsymbol{r}} \qquad (1)$$

It is my contention that the creation is geocentric and that the correct law of forces is:

[1] This is the smaller of the two effects. It is now called the "Schiff frame dragging effect" but in geocentric literature, it is still called the "Lense-Thirring effect." (Lense, J. & Thirring, H., 1918, Physikalische Zeits, **22**:29.) Lense and Thirring derived their result by assuming the universe was a rotating shell about the earth, that is, they assumed a purely geocentric model, not really a relativistic one in the modern sense. In essence, we can claim support for the geocentric model from the Gravity Probe B results.

$$\boldsymbol{F} = m(\ddot{R} + \ddot{r} - 2w \times \dot{r} - \dot{w} \times r - w \times (w \times r) \qquad (2)$$

where in a geocentric system $\ddot{R} = 0$. $\boldsymbol{R}$ would be the displacement of an earth coordinate system from the origin of some other inertial system. w is the rotation of the firmament about earth's center. This would be the sum of earth's diurnal w, its precession, nutation, Chandler wobble, and other rotational effects:

$$w \leftarrow w + w_p + w_n + w_C + w_0 = w + w_1 . \qquad (3)$$

A further consideration is the proper statement of Newton's second law,

$$\begin{aligned} F &= \frac{d}{dt}(mv) = \dot{m}v + m\ddot{r} \\ &= \dot{m}(\dot{r} - w \times r) + m\ddot{r} . \end{aligned} \qquad (4)$$

The $\dot{m}$ term is rarely, if ever, invoked. But if it and other terms are included very small terms on the order of one part in a billion are generated. These terms associated with $\dot{m}, \dot{w}, w_p$ etc. might explain the above two experiments.

The final form of the geocentric force law is:

$$F = m(\ddot{r} - 2w \times \dot{r} - \dot{w} \times r - w \times (w \times r)) + \dot{m}(\dot{r} - w \times r) \qquad (5)$$

where ω must be replaced by its sum (equation (3)). This substitution and subsequent expansion will yield many additive terms. I plan to examine the contribution of these terms once I acquire a precise definition of the two experiments.

The second experiment does not measure mass but does measure weight; hence the true mass can only be obtained when all forces acting upon the mass are appraised. I doubt the experiment does this. For example, was the effect of nutation considered as a cause of the observed mass where, in reality, it is the weight that is observed? One may also ask if the change, or cause of change, is responsible for the relativistic gyro drifts of experiment number 1.

Equation (5) is the law of force; it is geocentric, it is what God created, not to be derived. However, such terms can arise from various other formulations. Barbour and Bertotti obtain such terms in their application of the Euler-Lagrange equations to their particular Hamil-

tonian.[2] Their derivations are compatible with geocentricity. Various Aperion publications do likewise from certain cosmological assumptions. I could list more examples. Of course, none of them acknowledges the geocentric proof it provides.

I have often wondered if Isaac Newton had derived $E=mc^2$. Perhaps it might yet be found in his many writings that have not been explored. He might have thought as follows: Consider equation (4) and examine the force associated with the $\dot{m}\dot{r}$ term:

$$f = \dot{m}\dot{r} = \dot{m}v \tag{6}$$

A variable mass may occur in many ways. A falling raindrop may lose or accumulate moisture. A chemical explosion or an atomic explosion can change mass. The energy associated with this term is:

$$E = \int \dot{m}v\,dr = \int \frac{dm}{dt}\frac{dr}{dt}\,dr$$

$$= \int\left(\frac{dr}{dt}\right)^2 dm \tag{7}$$

and if $(dr/dt)^2$ is constant:

$$E = \Delta m v^2 . \tag{8}$$

In the case of an atomic explosion, mass is converted into photons which move with velocity $c = 3\cdot10^{10}$ cm/sec, with respect to a fixed geocentric coordinate system, i.e. not with respect to the nondescript unintelligible coordinate system of Relativity Theory.

The concept of energy as we now know it, and as I have just used it, were not as such recognized by Newton; however, he does derive certain integrals (constants) of 2-body motion that embody the same. He must have appreciated the vast forces associated with the terms. I view the research of $\dot{m}$ terms as a pregnant area of geocentric research.

[2] Barbour and Bertotti, 1977. *Il Nuovo Cimento B*, **38**:1.

THE BIBLICAL FIRMAMENT
Part 1

Gerardus D. Bouw, Ph.D.

In this essay I shall give an account of my discovery that the Planck medium, also known as the vacuum state of space and sundry other aliases, such as Wheeler's space-time foam, is the firmament created on the second day of creation. I shall start with the thinking that led me to that discovery and then demonstrate from Scripture, history, linguistics, and science that the Planck medium *is* the firmament created on the second day of the creation week related in the first chapter of Genesis.

The Irresistible Force Meets the Immovable Object

In 1971, while I was a graduate student at Case Institute of Technology, I feared that my concentration in astrophysics at the University of Rochester, followed by my graduate work at Case, left me with some holes in my education. As a result, I enrolled at Cuyahoga Community College and signed up for two courses, one in psychology and another in logic. Both classes were taught by Case graduate students in their relative majors (psychology and philosophy), and last I heard of them, both were employed as cab drivers, something that I, also, did on two occasions after earning my doctorate.

All I remember of the psych class was relaxation techniques and some of B. F. Skinner's imprinting works. I recall more of the subject matter in the logic class, including truth tables and the difference between valid and sound logic—not all valid proofs are sound, but all sound proofs are valid. One of the lasting things I learned from my friendship with the two professors outside of class was the logical answer to the old question, "What happens when an immovable object encounters an irresistible force?" The logical answer is, "Everything." That explained many natural phenomena to me, most particularly the Bermuda Triangle where you have an immovable object, namely the heat in the ocean, and an irresistible force, namely the sun-driven wind. You end up with an "everything," *viz.* hurricanes and rogue waves in both the water and the atmosphere.

The solution to the question of what happens if an irresistible force meets an immovable object became a founding principle for me for the next few years. I was coming out of atheism and at the time was

more accurately described as an agnostic; I did not know whether God existed or not. I would be in that state until early 1973.

Attention Spans

I will only mention the discovery of attention span. I wrote about the concept and the experiments leading to the discovery of attention span several years ago and published the work in *The Biblical Astronomer*.[1] The theory, developed in 1972, considers all human reasoning to be circular, given our finite knowledge. Attention span is the circumference of the reasoning train; how long it takes to go full circle.

Attention span complemented another key concept leading to the discovery of the firmament, namely, that theories are constructed around a vacuum state (i.e., a "hole") in our knowledge; something we do not know but wish to learn or discover. In physics, we usually try to discover the form of the hole by formal means: formal logic, deriving formulas, formal definitions, etc. That is augmented by structural linguistics, the outlining of the hole in our knowledge, that is the vacuum state, by using phrases, clauses, sentences, paragraphs, chapters, etc. Christianity recognizes the "vacuum state" or the "hole in us" as the Word. I have written about these matters also.[2]

Life On a Neutron Star

After finishing my doctorate work in March of 1973, I drove a cab for three weeks to save up enough money to move to the Monterey area of California. While there, the American Association for the Advancement of Science happened to hold its annual meeting in San Francisco. It just so happened that this particular meeting focused on Velikovsky's work, but that had no bearing on my reason to attend the meetings. I was obviously interested in astronomy and hoped to find work.

As mentioned earlier, I was no longer an atheist but an agnostic. As it happened, I decided to attend the session on condensed stars. One of the papers presented there changed my conception of God.

The particular paper I refer to talked about neutron stars. As a star collapses under its own gravity or because the core of the star is pushed inwards by the explosion of an outer shell, the material in the star may get so compressed that the protons and electrons can no longer coexist but are squeezed together to form neutrons. A star in which this has happened is called a *neutron star*. The paper presented evidence

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[1] Bouw, G. D., 2007. "Vistas in Time II: the Linguistics," *B.A.* **17**(121):77. (All *B.A.* articles relevant to this paper are available at http://geocentricity.com.)

[2] Bouw, G.D., 1996. "Theory of Theories: Parts 1 and 2," *B.A.* **6**(77, 78):22, 18 respectively.

that, at least near the surface, the neutrons can organize themselves into structures analogous to molecules. The paper's reader proposed that these molecular-type molecules might evolve into a sort of nuclear life.

The idea that life could be conceivable on a neutron star intrigued me. First, the reaction rates in nuclear processes are so fast that any such "life" would have evolved in seconds. Second, the conditions in a neutron star are analogous to the early conditions of the big bang. To me, that suggested that if life was present in the early stages of the big bang, it takes no great leap of faith to assume its presence before the start of the big bang. That further implied that the universe was created by a living entity, not by chaos, the creator-god of the Babylonians, pagans, and Humanists. That, dear reader was the end of my agnosticism. All I had left to do was to discover *which* of the gods of the world was the Creator.

I didn't have to think long or explore very deeply to dismiss the man-gods such as the gods of the Hindus, Buddhists, Taoists, and Humanists. Even the god of the Mohammedans I judged too small, for by instituting kismet (uncontrolled and unreasonable fate) Allah showed himself too small to control his own creation, especially since he "wound it up and walked away." That left only the God of the Jews, and, by extension, the God of Protestantism. Of course, all human-form gods were out, which meant that the Pope, God's substitute god on earth (Vicar of Christ), was too small, too; else why would God need a representative on earth other than himself, i.e., other than the Holy Ghost?

It took one reading through the Authorized Version from cover-to-cover and once more through the Gospels to convince me that the God presented there is the one and only God, the only one powerful enough to create the universe and still have no room for himself. My question of "Which of the gods is the Creator God?" was answered.

The Birth of Geocentricity

In 1976 I was introduced to the geocentric nature of the Holy Bible. Harold Armstrong, who was then the editor of *The Creation Research Society Quarterly*, in a note requesting tolerance for each other among Creationists, mentioned that some Creationists, such as Walter van der Kamp, even believed that the earth is stationary in the center of the universe. Although I knew very well that there was no proof for or against the geocentric universe, for me to take a stance on this issue I needed to be certain that there was no doubt in my mind that the Scripture *is* geocentric. At the time I was ignorant of the fact that the Authorized Version is the word of God, so my inquest on matters geocentric centered on the mythical "original autographs." The research con-

sumed sixteen hours a day, six days a week, for three weeks and at the end I could only conclude that Scripture is probably geocentric.

I suppose, dear reader, that if we were face to face you might question, *"Probably* geocentric?" That is the strongest statement that anyone who believes that the inerrancy and inspiration of Scripture existed only in the original autographs can say. After all, we have never seen them and we don't have them anywhere that we should recognize them. The meanings of the words used in the original languages became obsolete in the eighteenth century when the original word definitions listed in the Bible dictionaries were secularized and redefined. The original autographs are obsolete; indeed, they no longer exist. By the same token, the meanings carried by the words of the manuscripts in the original languages have been corrupted. It is thus no wonder that all I could conclude was that the Bible is probably geocentric. The definitive geocentric verses can only be recognized if one assumes that God gave the Scripture by revelation and that he must and will preserve his words from corruption by man and will not allow counterfeit versions to be inerrant or inspired by the Holy Ghost and, indeed, the Holy Ghost is not even mentioned by them, let alone indwelling them.

Not long afterwards, I did find the strong geocentric verses such as Joshua 10:13. Having committed myself to the presence of an inerrant, preserved Bible from the start of my first pass of reading the Bible from cover-to-cover, I could only believe what was written. I had read the Authorized Bible, and in the course of my reading had proven it to be the inerrant, preserved word of God consisting of the very words of God. The die was cast; I became, and remain, a Geocentrist.

Baby Steps

While the above cogitations about God and the firmament were going on, other things relating to geocentricity were also happening.

In the course of my schooling I was required to take a course in Relativity. At the end of that course it was clear that Relativity made it possible for any object, even if it was a madly-spinning proton in a hydrogen nucleus, to be treated as if it were not rotating and at rest at the center of the universe. In those early days I turned the Theory of Relativity into an ally, for if it could make any place in the universe look as if it were at rest at the center of the universe, then it allowed the earth to be at rest in the center of the universe. Relativity certainly made it impossible for a recognized scientist to claim that Geocentricity was proven impossible. Relativity made certain no such claim could honestly be made. (Yes, anyone who claims that geocentricity is proven impossible or that the heliocentric system has been proven correct is either arguing from ignorance or lying.)

Having accepted Geocentricity without any physical or spiritual reservations, I started to think on a mathematically-based geocentric model that might be more physical than the geocentric "possibility" of Relativity. Now in the modern view, force is compartmentalized into several different categories and types. Newton had initially defined force as the product of mass times acceleration, that is, $\boldsymbol{F}=m\boldsymbol{a}$ where $\boldsymbol{F}$ stands for force, m stands for mass, and $\boldsymbol{a}$ stands for acceleration and the bold letters denote a vector, which means that the thing has a magnitude (i.e., an amount) which acts in a certain direction. Today, however, Heliocentrism's $\boldsymbol{F}$ has to add in the Coriolis, centrifugal, and Euler forces to be complete. All but the last of these enter into orbital computations. Both Newtonian and Einsteinian orbital physics consider that in all cases the presence of the universe can be ignored in deriving Newton's equation. Yet all the "additions" to Newton's $\boldsymbol{F}$, the extra forces if you will, result from the presence of the universe. On what grounds can Heliocentrists assume that the presence of the universe can be ignored in their derivations? The geocentric model says that the universe's presence cannot be ignored in deriving orbital calculations. The additional forces that were added to Newton's definition of force follow naturally in the geocentric model.[3] They must always be taken into account for accuracy's sake. This is a clear philosophical advantage the geocentric model has over the heliocentric model.

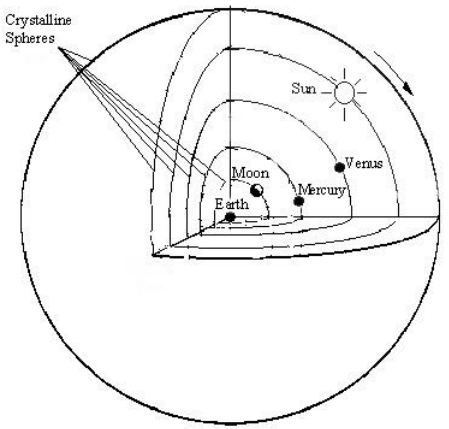

Figure 1: *Crystalline Spheres*

Another thing that needed attention in the early stages of the geocentric model's development was what to call the new geocentric model. There were two possibilities: Geocentrism and Geocentricity.

Historically, all geocentric models are classifiable as *Geocentrism*. That word is quite descriptive of the pre-Copernican geocentric models, for it implies that a compartmentalization of the universe exists in the model, hence the –ism suffix,

[3] E.g., see Barbour and Bertotti, 1977. *Il Nuovo Cimento B*, **38**:1.

which means divided (as in "schism"). For instance, the Ptolemaic model broke the motions of the solar system into epicycles and deferents. Each part was designed to allow the past or future position of a planet to be computed. Ptolemy's model survived Galileo's telescopic "evidences" against Geocentrism.

The crystalline spheres model (Figure 1), which was popular until the sixteenth century, did not fare as well. It regarded the planets as residing on concentric spheres. Galileo's telescopic observation of the phases of Venus proved the crystalline spheres model false. The phases of Venus (like the moon's) implied that Venus was between the earth and sun when new, and on the far side of the sun when full. In order to pass from the near side to the far side of the sun, Venus had to pass through the sun's crystalline sphere; any such passage would shatter the sun's sphere.

In the crystalline spheres model, too, we see a compartmentalization, but this time a physical division instead of a computational one.

In the modern geocentric case, however, the universe's presence cannot be ignored; it has to be considered as a whole. As a result, modern geocentric theory is an integrative approach rather than a divisive one and so it earns the –city suffix, Geocentri*city*.

The Plenum Æther

In 1977, after I had concluded that the Bible is geocentric, I searched the stacks of the University of Rochester's library for theories and research detailing what is known of the light-bearing medium commonly called the æther (now generally spelled as *ether*). The most useful book I found was called *Modern Æther Theory*, written by Harold Aspden of Cambridge University. Aspden's theory held that the ether is a plenum, an infinitely dense medium, uncreated, which is to say eternal and infinite in extent. Aspden's theory could account for several phenomena not easily accounted for in modern physics, such as the nature of ball lightning.

For several years thereafter I struggled with the obvious heretical implication of a plenum; that Aspden's ether has the properties of God and is thus indistinguishable from God. The problem is that such a plenum-ether should also have infinite energy or power (omnipotence) and that is clearly inimical to life. Aspden's plenum could therefore not be a true plenum. Yet Aspden's plenum model makes perfect sense as a light-bearing medium. I finally decided I would use logic instead of mathematics to solve the plenum-God problem.

The Irresistible Force, the Immovable Object, and God

Upon learning that the logical answer to the question, "What happens when an irresistible force meets an immovable object" is "Everything," I recognized immediately that this answer related to the existence of God. I now applied this to the theory of Geocentricity to solve the problem of how a true, uncreated plenum can coexist with a created plenum. My logic went as follows, and is as close as I can get to a proof for the existence of God.

Try to imagine nothing. We typically imagine darkness or some symbolic way of representing nothing, but to truly visualize nothing is physically impossible. No matter how hard we try, we cannot imagine ourselves out of the "nothing." It is impossible to picture nothing. Besides, we all know from Scripture that nothing is impossible.[4]

So, if it is impossible to imagine nothing, let us try a different tack. This time, let's explore the properties that characterize nothing as a "thing."

1. *Does nothing have a size?* How big is nothing? We might think its size is zero, but that doesn't help, for zero size still has the property of size. Noting cannot have the properties of size.
2. *Does nothing have any power?* How powerful is nothing? Is it powerless, that is, it has no or zero power? But the property of zero power still has the property of power. We see then that our nothing cannot have the property of power, not even the property of powerlessness.
3. *Can nothing have any intelligence?* Can nothing be aware of its environment? If nothing were aware of its environment, then it follows that its environment must be aware of it, in which case nothing becomes something. No, nothing can neither know nor sense; it cannot even have the property of intelligence.
4. *Can nothing exist?* It cannot exist because it can't have the property of existence.

We conclude that nothing cannot have any real properties whatsoever not even the property of "thingness," for if it did, it would no longer be nothing but a thing. We see then that nothing is impossible.

[4] Matthew 17:20—And Jesus said unto them, Because of your unbelief: for verily I say unto you, If ye have faith as a grain of mustard seed, ye shall say unto this mountain, Remove hence to yonder place; and it shall remove; and nothing shall be impossible unto you. Luke 1:37—For with God nothing shall be impossible.

But when we say that nothing is impossible, aren't we saying it has the property of impossibility? Yes, that is the one property that nothing can have; it is impossible. If it is impossible, then its complement or inverse, everything, must be possible.

We started this section by examining the properties nothing can have. We noticed that nothing is impossible; it cannot exist. Existence, then, must have the inverse properties. These properties are:

1. For no size, the inverse is infinite size. We call that *omnipresence*.
2. For no power, the inverse is infinite power. We call that *omnipotence*.
3. For no intelligence, the inverse is infinite intelligence. We call that *omniscience*.
4. For no existence, the inverse is infinite existence. We call that *the Great I AM*.

So we see that since nothing cannot exist, we are left with omnipresent, omnipotent, and omniscient Existence. Those properties are the same as God's properties; so let's call the infinite existence before whom there was nothing and after whom there is nothing, *God*.

For the moment, let us focus on the nature of *omnipotence*. Omnipotence is infinite power, everywhere. By definition, omnipotence is omnipresent, for if omnipotence is not omnipresent, then there is a place where omnipotence has no power. In that place, the "omni-" (meaning *everywhere*) of omnipotence is violated and omnipotence is no longer omnipotent. We see, then, that omnipotence must be omnipresent.

Now omnipotence signifies infinite power, and power has certain properties. Consider another infinite property of God; God is light. Scripture tells us that no man can see God and live. Light has power, so omnipotence means that God's light is also infinite in power. That means that the region in which the omnipotence of God is omnipresent has an infinite amount of light, and, by implication, is of infinite temperature. This, of course, brings us to the problem we had earlier, namely that the creation could not exist in a plenum unless God put aside such properties harmful to creation over a small volume (compared to infinity). Our problem thus reduces to how God restricted his light over the region of space we call the Universe to allow humans to exist long enough to accomplish God's purpose for creation.

One of the properties associated with power is mass. That means that one of the properties of omnipotence is omnipresent, infinite mass. In other words, the omnipresent omnipotence of God requires that he

be infinitely dense, where we use the word "dense" in the same sense that gold is denser than water.

The concept that space is infinitely dense is very ancient, dating back at least 2500 years to the ancient Greeks and probably well before that time. The Greeks called the infinitely dense medium that filled all space the *Plenum* because in a plenum every volume of space is as fully—or plentifully—filled as any other volume of space.

So, having started this section with nothing, we ended up with everything. We also see that the "everything" that is, the space-is-filled-with-an-infinitely-dense-plenum concept, was already old by the fifth century B.C.

(To be continued.)

REAGANISMS

Here's my strategy on the Cold War: We win, they lose.

Of the four wars in my lifetime, none came about because the U.S. was too strong.

I have wondered at times about what the Ten Commandments would have looked like if Moses had run them through the U.S. Congress.

The taxpayer: That's someone who works for the federal government but doesn't have to take the civil service examination.

I've laid down the law, though, to everyone from now on about anything that happens: no matter what time it is, wake me, even if it's in the middle of a Cabinet meeting.

It has been said that politics is the second oldest profession. I have learned that it bears a striking resemblance to the first.

Politics is not a bad profession. If you succeed, there are many rewards; if you disgrace yourself, you can always write a book.

If we ever forget that we're one nation under God, then we will be a nation gone under.

—Ronald Reagan

PANORAMA

A New Problem With the Evolutionary Origin of the Solar System[1]

In August 2000, NASA launched the Genesis spacecraft that was designed to spend 886 days collecting samples of the solar wind. The samples were collected between 2001 and 2004. On 8 September 2004, the spacecraft released a sample return capsule, which entered earth's atmosphere. Although the failure of one of its parachutes to deploy gave the capsule a hard landing, it marked NASA's first sample return since the final Apollo lunar mission in 1972, and the first material collected beyond the moon.

Researchers analyzing samples returned by NASA's 2004 Genesis mission have discovered that our sun and its inner planets may have formed differently than previously thought. Data revealed differences between the sun and planets in oxygen and nitrogen, which are two of the most abundant elements in our solar system. Although the difference is slight, it is contrary to evolution.

"We found that earth, the moon, as well as Martian and other meteorites which are samples of asteroids, have a lower concentration of the O_{16} (oxygen-16) than does the sun," said Kevin McKeegan, a Genesis co-investigator from UCLA. "The implication is that we did not form out of the same solar nebula materials that created the sun—just how and why remains to be discovered."

Earth's air contains three different kinds of oxygen atoms which differ only by the number of neutrons they contain. Nearly 100 percent of oxygen atoms in the solar system are composed of O_{16}, but there are also tiny amounts of more exotic oxygen isotopes called O_{17} and O_{18}. Researchers studying the oxygen of Genesis samples found that the percentage of O_{16} in the sun is higher than on earth or on other terrestrial planets. The other isotopes' percentages were slightly lower.

Another paper detailed differences between the sun and planets in the element nitrogen. Like oxygen, nitrogen has one isotope, N_{14}, (nitrogen-14) that makes up nearly 100 percent of the atoms in the solar system, but there is also a tiny amount of N_{15}. Researchers studying the same samples saw that when compared to earth's atmosphere, nitrogen in the sun and Jupiter has slightly more N_{14}, amounting to 40 percent less N_{15}. Both the sun and Jupiter appear to have the same nitrogen composition. As is the case for oxygen, earth and the rest of the inner solar system are very different in nitrogen.

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[1] NASA staff writers: 2011. "NASA Mission Suggests Sun and Planets Constructed Differently," JPL , 24 June.

"These findings show that all solar system objects including the terrestrial planets, meteorites and comets are anomalous compared to the initial composition of the nebula from which the solar system formed," said Bernard Marty, a Genesis co-investigator from Centre de Recherches Petrographiques et Geochimiques and the lead author of the other new *Science* paper. "Understanding the cause of such a heterogeneity will impact our view on the formation of the solar system."

Data was garnered from samples of the solar wind (material ejected from the outer portion of the sun). This material is regarded by evolutionists as a fossil of the postulated nebula from which the sun and planets supposedly formed. However, the preponderance of scientific evidence suggests that the outer layer of our sun has not changed measurably since its formation.

"The sun houses more than 99 percent of the material currently in our solar system, so it's a good idea to get to know it better," said Genesis Principal Investigator Don Burnett of the California Institute of Technology, Pasadena, Calif. "While it was more challenging than expected, we have answered some important questions, and like all successful missions, generated plenty more." In other words, the stream of observations that put the lie to evolution continues to fluster evolutionists.

Another Global Warming Alarm

The Arctic Ocean is warming up, icebergs are growing scarcer, and in some places the seals are finding the water too hot, according to a report to the Commerce Department yesterday from Consulate, at Bergen, Norway.

Reports from fishermen, seal hunters and explorers all point to a radical change in climate conditions and hitherto unheard-of temperatures in the Arctic zone. Exploration expeditions report that scarcely any ice has been met as far north as 81 degrees 29 minutes. Soundings to a depth of 3,100 meters showed the gulf stream still very warm.

Great masses of ice have been replaced by moraines of earth and stones, the report continued, while at many points well known glaciers have entirely disappeared.

Very few seals and no white fish are found in the eastern Arctic, while vast shoals of herring and smelts which have never before ventured so far north, are being encountered in the old seal fishing grounds.

Within a few years, it is predicted that due to the ice melt, the sea will rise and make most coastal cities uninhabitable.

Oh, by the way; I neglected to mention that this news alarm was dated November 2, 1922 and reported by the Associated Press and published in *The Washington Post* more than 88 years ago. Of course, since the north polar cap floats in water, if the entire ice mass were to melt it would raise the water level exactly zero inches. (Try it with a couple of floating ice cubes in a glass of water ready to overflow the brim. Not a single drop of water will overflow the brim as the ice cubes melt.) Will they never learn? Of the modern environmental movement, it is well written that:

> And when they shall say unto you, Seek unto them that have familiar spirits, and unto wizards that peep, and that mutter: should not a people seek unto their God? for the living to the dead? To the law and to the testimony: if they speak not according to this word, it is because there is no light in them. And they shall pass through it, hardly bestead and hungry: and it shall come to pass, that when they shall be hungry, they shall fret themselves, and curse their king and their God, and look upward. *And they shall look unto the earth; and behold trouble and darkness, dimness of anguish; and they shall be driven to darkness.* (Isaiah 8:19-22, emphasis added.)

Environmentalists only see disaster in the earth's future; never see they any hope, for they despise the Lord who created the earth and them. There is nothing new under the sun.

The next note gives us another example of the evolutionary mind set and its hatred of God's word.

Percival Lowell and the Canals on Mars

One of the most interesting examples of how man can see what he wants to see—how that a man's will affects his mind and vision—is the case of Percival Lowell, who died in 1916.

Lowell was born into a wealthy high-society family in Boston, graduated from Harvard, was a brilliant mathematician and successful businessman, traveled widely in the Far East, learned several languages, and kept company with many affluent, influential people. Charles Darwin's *On the Origin of Species* was published when Lowell was a boy, and he accepted the theory of evolution wholeheartedly.

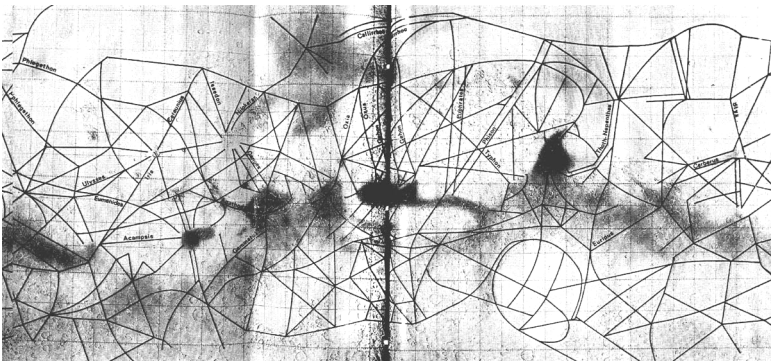
His imagination was stirred by Italian astronomer Giovanni Schiaparelli's 1893 book, *Life on Mars*, and of the report of the possible existence of "channels." Seeing this as proof-positive that life exists on other planets and therefore that the Bible is wrong, Lowell set out to promote this "evidence" among America's evolutionary cows,

not to mention destroying the authority of Scripture in the minds of the gullible Christians and unbelievers alike. He used his wealth to construct an astronomical observatory with a 24-inch refracting telescope in Flagstaff, Arizona, near the Grand Canyon. The Lowell Observatory was completed in 1894, and from then until his death 22 years later, Lowell observed Mars and published reports and books on his hallucinations.

Eventually he "saw" and named 700 canals (see map below which superimposes them on Mariner's map) on the red planet and came to believe that the Martians were building the canals in an attempt to save their planet. (Evolutionists always need to "save the planet" in order to keep the moral high ground, even if the planet is not in need of saving. Today we have to "save" the planet from being poisoned by carbon dioxide, a plant food necessary to human, animal, and vegetable life.)

Lowell imagined many fascinating details about the lives of the Martians he believed so dearly. Buried near his telescope, Lowell left his wealth for "the study of the Solar System and its evolution." The one small problem with this is there are no canals on Mars and no Martians. Starting in the 1970s with our first landing on Mars and continuing to this day with NASA robotic vehicles on the surface of Mars, as well as several orbiters circling Mars, no evidence of canals has been found, let alone evidence of "primitive" life on Mars, let alone intelligent life.

How could an intelligent, well-educated man see 700 canals that do not exist? His hatred of the God of the Bible was so deep that he desperately wanted to see them. The same mindset allows evolutionists and atheists to see evidence for Darwin's evolution where none exists. The Bible describes it as the deceit of the fallen human heart and spiritual blindness. It is possible to believe a lie and to believe it with all one's heart.



CREDO

The Biblical Astronomer was founded in 1971 as the Tychonian Society. It is based on the premise that the only absolutely trustworthy information about the origin and purpose of all that exists and happens is given by God, our Creator and Redeemer, in his infallible, preserved word, the Holy Bible commonly called the King James Bible. Any scientific endeavor which does not accept this revelation from on high without any reservations, literary, philosophical or whatever, we reject as already condemned in its unfounded first assumptions.

We believe that the creation was completed in six twenty-four hour days and that the world is not older than about six thousand years. We maintain that the Bible teaches us of an earth that neither rotates daily nor revolves yearly about the sun; that it is at rest with respect to the throne of him who called it into existence; and that hence it is absolutely at rest in the universe.

We affirm that no man is righteous and so all are in need of salvation, which is the free gift of God, given by the grace of God, and not to be obtained through any merit or works of our own. We affirm that salvation is available only through faith in the shed blood and finished work of our risen LORD and saviour, Jesus Christ.

Lastly, the reason why we deem a return to a geocentric astronomy a first apologetic necessity is that its rejection at the beginning of our Modern Age constitutes one very important, if not the most important, cause of the historical development of Bible criticism, now resulting in an increasingly anti-Christian world in which atheistic existentialism preaches a life that is really meaningless.

If you agree with the above, please consider becoming a member. Membership dues are $30 per year. Members receive free shipping on all items offered for sale by the *Biblical Astronomer.*

To the law and to the testimony: if they speak not according to this word, it is because there is no light in them.

– Isaiah 8:20

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