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Constellations: legacy of the dispersion from Babel

Jonathan Henry's article on the Constellations casts doubt on any form of "gospel in the stars". But he does not touch on the one scriptural fact that must be included in any evaluation. The Magi knew, from studying the stars, that the King of the Jews had been born, and they were good guys!

Further, the Holy Spirit thought this bit of history important enough that it was included in the inspired record.

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Jonathan Henry replies:

I appreciate this question. The Bible says the wise men saw "his star". This is a unique designation and appears to refer to a unique stellar object. Combined with the fact that there is no natural object, such as a comet, a planetary approach or conjunction, a nova or supernova, etc., that could follow the wise men as this star did, and then stand over the place where Jesus was, signifies that his star was not a natural object. Therefore, it could not have been visible in any constellation throughout the centuries in which the "gospel in the stars" revelation supposedly existed. The idea that the wise man saw his star in Virgo is not supported in Scripture. Using this point as a proof of the gospel in the stars is circular reasoning, because one has essentially assumed what one wants to prove.

The significance of the magi being knowledgeable in astronomy is *not* that they would be anticipating a prophecy fulfillment in the stars. Their significance is that (1) being especially knowledgeable about the heavens, they would recognize his star as a special or unique object more markedly than the average person, and (2) being connected with the governmental infrastructure of the East, they had the wherewithal to travel to see Jesus that common people would never have.

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About Humphrey's "new" metric

I do not intend to criticize the methods or results that appear in "New time dilation helps creation cosmology" by D. Russell Humphreys,[1] where equation eq. 2 is utilized for time dilation. In what follows, the "potential speed", v, is used to derive a general physical metric. The v is termed potential speed since when it appears in various metrics, it requires speed units of measurement. This derivation is based upon infinitesimal modeling[2] restricted to general relativity. For infinitesimal modeling, usually, simple non-relativistic physical properties are transferred and viewed using infinitesimal measures. That is, they are viewed in an infinitesimal region. The viability of this derivation method is enhanced since, for specific v, the following metrics have been derived: the Schwarzschild, the Schwarzschild with cosmological constant, the de Sitter, the Newtonian approximation and the Robinson–Walker.[3] Humphreys' shell metric follows by substituting

$R(t^m)$ for r^m in two places in eq. 26.[4] The derivation presented here is a significant improvement over the one published previously.[5] Further, this leads to an easily derived Humphreys' metric.

Using infinitesimal modeling methods and assuming that the simple Galilean speed and distance law (GL) holds for infinitesimal and linear photon propagation, the Special Theory Fundamental Differential Invariant:

$$ds^2 = (cdt^g)^2 - (dr^g)^2 = c^2 d\tau^2 \qquad \text{(H1)}$$

is derived.[6] The c is the local measurement for photon speed and, in terms of the x^g, y^g, z^g Cartesian coordinates, $(dr^g)^2 = ((dx^g)^2 + (dy^g)^2 + (dz^g)^2)$.

Eq. H1 and the superscripts g represent local measurements taken at spatial point P, within a gravitational field, using specific devices. In what follows, the superscripts m represent local measurements taken at an m-point, where gravitational effects are absent (i.e. independent from physical effects[7]).

For infinitesimal modeling within an infinitesimal neighborhood, all real-valued functions usually behave like constants. Using GL, linear photon behavior within an infinitesimal region, where v is the speed of the photon source, is characterized by[8]:

$$\frac{dr^g}{dT^g} = \frac{v}{c}, \qquad \text{(H2)}$$

$$dr^g = v\,dt^g,\ dT^g = cdt^g \qquad \text{(H3)}$$

Additional infinitesimal physical effects, not merely for photon behavior, are modeled by the following simple linear transformation. (A): $dr^g = (1-\alpha\beta)dr^m - \alpha dT^m$ and (B): $dT^g = \beta dr^m + dT^m$, $dT^m = cdt^m$ where in Cartesian coordinates $\left(dr^m\right)^2 = \left(dx^m\right)^2 + \left(dy^m\right)^2 + \left(dz^m\right)^2$, and α and β are to be determine. Notice that the determinant of the coefficient matrix is 1.

Substituting (A) and (B) into H1 yields

$$ds^2 = (1-\alpha^2)(dT^m)^2 + 2(\alpha+\beta(1-\alpha^2))dr^m dT^m + 2(\alpha+\beta(1-\alpha^2))dr^m dT^m \qquad \text{(H4)}$$

Since space-time is symmetric with respect to the past and future senses of the time variable, this implies that ds^2 is unaltered when dt^m is replaced by $-dt^m$.[9] Hence, $\alpha + \beta(1-\alpha^2) = 0$. For simplicity, let $\alpha = -\sqrt{1-\lambda}$. Then $\beta = (\sqrt{1-\lambda})/\lambda$. (The reason for this choice of α is given prior to eq. H8). Substituting into (A) and (B) yields:

$$dR^g = \frac{1}{\lambda} dr^m + \sqrt{1-\lambda}\, dT^m \qquad \text{(H5)}$$

$$dT^g = \frac{\sqrt{1-\lambda}}{\lambda} dr^m + dT^m \qquad \text{(H6)}$$

This yields the derivative form:

$$\frac{dr^g}{dT^g} = \frac{\frac{1}{\lambda}\frac{dr^m}{dT^m} + \sqrt{1-\lambda}}{\frac{\sqrt{1-\lambda}}{\lambda}\frac{dr^m}{dT^m} + 1} \qquad \text{(H7)}$$

At an m-point, x^m, y^m, z^m are not dependent upon t^m. Thus, the (total) derivative $dr^m/dT^m = 0$. Hence, from eq. H7, $dr^g/dT^g = v/c = \sqrt{1-\lambda}$ yields $\lambda = 1 - v^2/c^2 > 0$, when $0 \le v < c$. If $\alpha = \sqrt{1-\lambda}$ is chosen, then this yields, for $v \neq 0$, the contradiction $v/c < 0$. Substituting λ into eqs. H5 and H6 and then into H1 yields:

$$ds^2 = \lambda(dT^m)^2 - (1/\lambda)(dr^m)^2 \qquad \text{(H8)}$$

I call eq. H8 the "linear effect line-element", and it has the exact form as Humphreys' eq. (2),[10] where $2\Phi = -v^2$, $dr^m = dw$ and $dT^m = cdt$. For a motionless particle, let $dr^g = dr^m = 0$. Comparing eqs. H1 and H8 yields $dt^g = \sqrt{\lambda}\,dt^m$, where $dt^g = d\tau$. This is the same as Humphreys' eq. 7,[10] where again $2\Phi = -v^2$.

Eq. H8 was first applied to the Special Theory. Then, in 1993, this derivation method was applied to gravity. The original derivation method and its results were made available to the creation science community in 1994.[11] Transforming the Newtonian potential energy into kinetic energy yields the square of the speed v: (*) $v^2 = 2GM/r^m = -2\Phi$.

Substituting (*) into eq. H8 yields the well-known Newtonian approximation for a centrally located gravitating system at a great distance r^m from the point being considered.[12] Eq. H8 holds for any gravitational scenario that satisfies its conditions. Applying the position independent cavity theorem of Newton to the interior of an expanding shell of homogeneous mass M and, as mentioned by Humphreys prior to eq. 3a,[13] neglecting possible small effects, the Newtonian gravitational potential within the shell, at each moment t^m, is $-GM / R(t^m)$. Hence, substituting $v^2 = 2GM/R(t^m)$ into eq. H8 where $r^m \le R(t^m)$, it follows that throughout the interior of the expanding shell eq. H8 has the exact form as Humphreys' metric eq. 9.[14]

Humphreys shows[15] that, for the expanding shell scenario, his eq. 9 is an exact solution for the Einstein-Hilbert gravitational field equations. This is a valuable contribution, for it yields additional evidence that this method of using rather simple infinitesimal behavior is viable for certain applications.

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Russell Humphreys replies:

I'm glad Robert Herrmann has found a new way to derive my metric. This gives me more confidence in it, and should do so for everybody else, too. It is also helpful, because I'm building a new cosmology upon this metric, and it is very important to have a solid foundation.

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On interpreting deep sea data as evidence of Milankovitch cycles

Some of the implications following from the article entitled "On interpreting deep sea data as evidence of Milankovitch cycles"[1] should be noted. If the 1/20th subharmonic of the Duffing equation is the cause of the anomalous, supposedly 400,000-year cycle in the original paper by Hayes *et al.*,[2] then its appearance elsewhere in the stratigraphic record should herald either a quick catastrophic event or a global event of short duration on the spinning earth. Its appearance anywhere would speak against a Milankovitch cycle interpretation of the stratigraphic layers under examination; its appearance should help pinpoint catastrophic events in a creationist model.

Interestingly, Late Triassic to Middle Cretaceous cycles interpreted as being approximately 400,000 years long do seem to exist in data from eastern North America[3], central Italy[4] and Hungary[5]. Even though such cycles are asserted to also exist at the Permian/Triassic[6] and Cretaceous/Tertiary[7] mass extinction boundaries, the "bundling of ~ 100 k.y. eccentricity cycles into ~ 400 k.y. eccentricity cycles"[7] seems at present to be wishful thinking lacking the rigor of a real signal processing analysis. Certainly the hypothesized enhanced "sensitivity of the oceans to orbital forcing for almost 1 m.y. [million years]"[7] due to a single hypothesized extraterrestrial impact must strain the incredulity of even evolutionists (and lend support to the alternative Deccan Trap volcanism explanation).

If the article's conjecture about modal coupling of physical systems being the cause of the dominance of the 100,000-year cycle over the 40,000-year cycle is correct, then the so-called transition problem of having no explanation for the 100,000-year cycle being dominant over the last one million years when the 40,000-year cycle was dominant for the previous two million years does not exist. Instead such a transition marks the onset of modal coupling, the evidence for the physical progression of a catastrophic event into a new region. It is probable that further data on such transition problems for stratigraphically older layers will help elucidate and refine a creationist model. Indeed, just an examination of the relative amplitudes of the 1/20th subharmonic at various localities to other orders of harmonics at the same places may reveal the progression of the physical phenomenon responsible for the stratigraphic layers. Different rates of attenuation for these different frequency components are expected. Many other tests revealing details of the physical process could be applied if the data were available.

From our research[8] it appears that recovering the catastrophic tell-tale 400,000-unit anomalous Milankovitch cycle from Pennsylvanian strata has the potential to be fraught with a great deal of difficulty due to diagenetic separation of floating forest layers (unless, of course, the application of a low pass filter to the raw data proves effective). Anyway, further finds of supposedly 400,000-year stratigraphic cycles can only help hasten the demise of the Milankovitch cycle paradigm.

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