PART IV -- CONCLUSION

- *Further Validating the Universal Decay*

- *Conclusion*

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SECTION 12

Further Experimentally Validating the Universal Decay

Validating The Universal Decay

As developed in Section 4, each particle's *Propagated Outward Flow* contains, carries within it, has its speed of propagation determined by, its own μ_0 and ε_0. Traveling *medium*, and therefore the light being carried by it, do not further decay once they are emitted from their source particle; rather, their speed is permanently set by their then embedded own μ_0 and ε_0. Because of the decay process at the emitting particle its following emissions are at successfully slower speeds.

Because the observed speed of light is decaying, light emitted long ago is faster than our present, local contemporarily emitted light, which causes the ancient light to appear to us to have a longer wavelength, that is, to be redshifted. [A small portion of redshifts, but not more than a minor portion, is due to the Doppler Effect of the astral sources' outward velocities, velocities always smaller than c.]

Aside from observation of redshifts, each observation of which is actually an observation of the Universal decay, there are two other specific experimental observations that can be conducted to verify the Universal Decay and the value of its decay time constant.

1- It can be tested that the speed of the light from far distant astral sources is larger than our contemporary local light speed. The earlier procedure of Michaelson and Moreley is now superseded by the modern procedure, which is to modulate the light beam placing brief markers along its path and use those markers to measure the time required for the light to traverse a known distance.

For that purpose the decay of the speed of light is as per equation *(12-1)*.

(12-1)
$$c(t) = c_{[t=0]} \cdot \varepsilon^{-\left[t/\tau\right]}$$

Similarly the value of the Planck Constant in traveling *medium*, traveling light, does not further decay from its value in the *medium*, light, at the time it was emitted from the source particle; rather, its value is permanently there, then embedded.

2- It can be tested that the Planck Constant of the light <u>from distant astral sources</u> is larger than our contemporary Planck Constant, h, using the photoelectric effect. Measuring the retarding potential that reduces the photoelectric current to zero, for light spectrally selected of a specific frequency, plots [for a set of different frequencies] as diagonal straight lines whose slope is the Planck Constant of that light as in Figure 12-1.

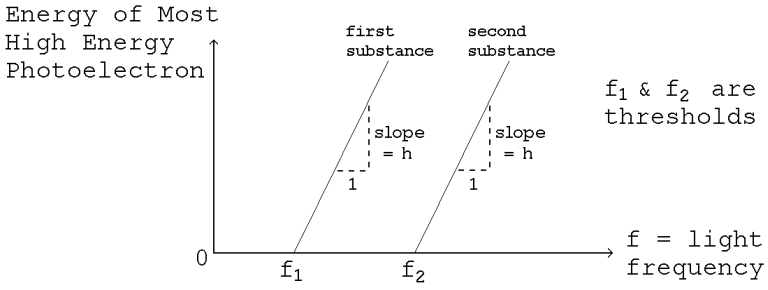

Figure 12-1

The dimensions of the Planck Constant, h, are $[M \cdot L^2/T]$ as compared to the dimensions of light, $[L/T]$. Therefore, whereas the decay of light is as equation $(12\text{-}1)$, above, the decay of the Planck Constant is per equation $(12\text{-}2)$.

$(12\text{-}2)$

$$h(t) = h_{[t=0]} \cdot \varepsilon^{-\left[t/\tau\right]} \cdot \varepsilon^{-\left[t/\tau\right]} = h_{[t=0]} \cdot \varepsilon^{-\left[2 \cdot t/\tau\right]}$$

The behavior of the decay of light and the decay of the Planck Constant are as in Figure 12-2 in which the scales are logarithmic, not linear.

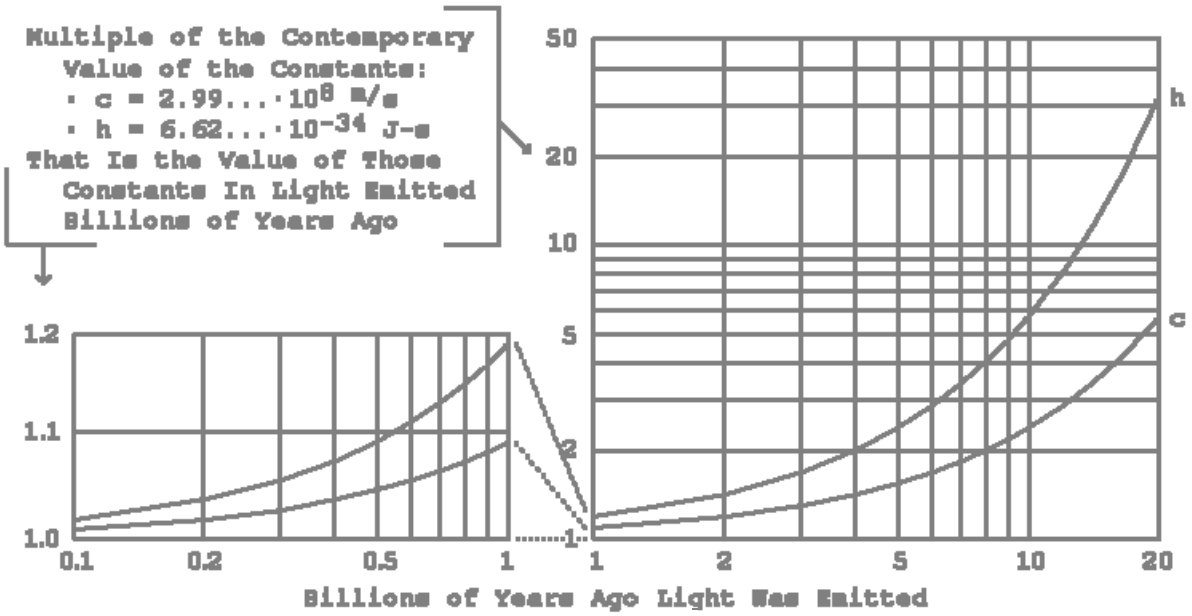

Figure 12-2