CHAPTER EIGHTEEN

The Unification of Gravity and Electrostatics: A Classical Derivation of Newton's Gravitational Force Law and Coulomb's Law

From Chapter Eight it was established that *the creation of mass is the obligatory consequence of forced precession applied to rotating charge*. If mass and charge are truly equivalent then there must exist a common set of principles and laws pertaining to both thus unifying gravity and electromagnetism. Mathematical unification can first be demonstrated through the unification of Newton's gravitational force law and Coulomb's law. We will first derive Newton's gravitational force law. Given Corollary IIaa (Ashton's Law) where

$$F_{gyroscopic} = \left[\left(\frac{\alpha^2\hbar^2}{c^2} x \frac{1}{r^2}\right)\frac{1}{r^2}\right] x \left[\frac{c^3 r_g{}^2}{h}\right]$$

and Postulate 1 where

$$q^2 R = \alpha\hbar = mcr$$

the value of $\alpha\hbar$ in terms of mass, from Postulate 1, can then be substituted into Corollary IIaa. Therefore

$$F_{gyroscopic} = \frac{m_1 M_2}{r^2} x \left[\frac{c^3 r_g{}^2}{h}\right] = F_{gravity} \qquad \textbf{18.1}$$

If this equation is to represent Newton's gravitational force law then r_g must be a constant such that if

$$G = \frac{c^3 r_g{}^2}{h} \qquad \textbf{(18.2)}$$

where equation (18.2) is named Hutson's gravitational constant, then

$$r_g{}^2 = \frac{Gh}{c^3} \qquad \textbf{(18.3)}$$

$$r_g{}^2 = \frac{(6.67\,x10^{-11}\,Nm^2 / Kg^2)x(6.63\,x10^{-34}\,Js)}{27\,x10^{24}\,m^3 / s^3} = 16.4\,x10^{-70} \qquad (18.4)$$

$$r_g = 4.05\,x10^{-35}\,meters = \sqrt{2\pi}(Planck's\ \ Length) \qquad (18.5)$$

thus given equation (18.5) equation (18.1) is true.

QED

Coulomb's Law can similarly be derived. Given Corollary IIaa where

$$F_{gyroscopic} = \left[\left(\frac{\alpha^2\hbar^2}{c^2}\,x\,\frac{1}{r^2}\right)\frac{1}{r^2}\right]x\left[\frac{c^3 r_g{}^2}{h}\right]$$

and Postulate 1 where

$$q^2 R = \alpha\hbar = mcr$$

then

$$q^2 R = \alpha\hbar \qquad (18.6)$$

Substituting the quantity $q^2 R$ **for** $\alpha\hbar$ **into Corollary IIaa yields**

$$F_{gyroscopic} = \left[\left(\frac{q^4 R^2}{c^2}\,x\,\frac{1}{r^2}\right)\frac{1}{r^2}\right]x\left[\frac{c^3 r_g{}^2}{h}\right] \qquad (18.7)$$

$$F_{gyroscopic} = \left[\left(\frac{q^4 R^2}{c^2}\,x\,\frac{1}{r^2}\right)x\,\frac{1}{r^2}\right]x\left[\frac{c^3 r_g{}^2}{2\pi\hbar}\right] \qquad (18.8)$$

$$F_{gyroscopic} = \left[\left(\frac{q^4 R^2}{c^2}\,x\,\frac{1}{r^2}\right)x\,\frac{1}{r^2}\right]x\left[\frac{c^3\left[(2.506)^2\,x(r_{Planck})^2\right]}{2\pi\hbar}\right] \qquad (18.9)$$

where $r_{Planck} = Planck's\ \ Length = 1.616\,x10^{-35}\,meters$

$$F_{gyroscopic} = \left[\left(\frac{q^4 R^2}{c^2}\,x\,\frac{1}{r^2}\right)x\,\frac{1}{r^2}\right]x\left[\frac{c^3\left[(r_{Planck})^2\right]}{\hbar}\right] \qquad (18.10)$$

The GFT States that $r_P = 4.01x10^{-18}\,meters$. This is the square root of the magnitude of Planck's length, in meters. If we allow $r = r_P$ then

$$r^2 = \left(4.01x10^{-18}\,meters\right)^2$$

Therefore

$$F_{gyroscopic} = \frac{\alpha q^2 Rc}{r^2} \tag{18.11}$$

$$\frac{F_{gyroscopic}}{\alpha} = \frac{q^2 Rc}{r^2} = Coulomb's\ Law \tag{18.12}$$

QED

Also note that

$$\frac{F_{gyroscopic}}{\alpha} = Coulomb's\ Law = \frac{F_{gravity}}{\alpha} \tag{18.13}$$

Therefore

$$\alpha = \frac{F_{gravity}}{F_{Coulomb}} \tag{18.14}$$