# A SHORT MONOGRAPH ON A CURIOUS ANOMALY REGARDING THE SO CALLED GRAVITATIONAL 'CONSTANT'

**by**

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In his paper entitled *A New Perspective on Advanced Space Travel*, the author dealt briefly with the so called gravitational 'constant' in the range , $0 \le G \le G_o$ where G represents a variable gravitational 'constant', and $G_o$ represents the usual Newtonian gravitational 'constant' value. The scale dealt with was the sub-nuclear level regarding the weak interaction: hardly a range at which gravity can be measured, yet a close approximation to the Fermi constant was derived based upon a variable G in the weak interaction. It is, however, the belief of the author that the universe operates quite differently in the range of $0 \le G \le G_o$ as opposed to the range $G \ge G_o$.

Now let us look briefly in our macroscopic level at the range $G \ge G_o$, wherein the anomaly lies, in that there appears to be two solutions to the same problem in this thought experiment. Consider that you have some object, such as a loaf of bread. Assume further that you have a button on some kind of imaginary control panel before you, which you can push to increase the value of the gravitational 'constant' around the loaf of bread. If you push the button so that the gravitational 'constant' doubles, then you would expect that the loaf of bread doubles its weight. This is one solution. The button is required to be infallible, so that the requirement of doubling the weight is incontrovertible.

$W_o = m_o g_o$ represents the beginning weight of the loaf of bread, and $g_o$, we know, is proportional to $G_o$. If we double $G_o$, then we must also double $g_o$. Hence the final weight of the loaf of bread is

$$W = 2W_o = m_o g = m_o(2g_o)$$

However, also consider that the possibility exists that we live in a universe in which there is some sort of requirement for gravitational stability. In other words, consider that whenever the button is pushed to increase the value of the gravitational 'constant', that the universe resists the increase and tries to maintain the normal stable value of the gravitational 'constant' of $G_o$. Remember, however, that the button is required to be infallible, and that there must be a doubling of the weight. What then is the answer to this dilemma? Herein lies the anomaly. How is the requirement of gravitational stability to be achieved, while at the same time insisting on the requirement of the doubling of weight? The answer is simple and requires a simple re-interpretation. We again rewrite the final weight of the loaf of bread as $W = 2W_o = m_o g = (2m_o)g_o$. In other words, we end up with two loaves of bread instead of one. This might assist some of the readers of this article who throw parties for large numbers of guests.....say 5000!