

## Essay 44 : Lagrangian Dynamics of Solar System Orbits

The orbits of objects in the solar system are well known to be precessing ellipses, ellipses that slowly rotate around. The analytical function of the precessing ellipse is simple and well known, and it can be used with simple lagrangian dynamics to produce the force of attraction for a precessing ellipse. The force of attraction turns out to be the sum of an inverse square and inverse cube in the radial coordinate  $r$ . Amazingly, this simple exercise seems never to have been done before and it finishes Einsteinian general relativity (EGR) because the force of attraction in EGR is the sum of an inverse square and inverse fourth in the radial coordinate  $r$  and cannot therefore produce a precessing ellipse in lagrangian dynamics. EGR uses THE SAME lagrangian method with this incorrect force law and finds incorrectly that the orbit is a precessing ellipse.

EGR pseudoscientists or dogmatists are therefore deceiving themselves, or are deliberately misleading the general public. In either case, funding of Aprecision tests@ of such an obviously incorrect theory should cease.

The simplest type of lagrangian dynamics is used, devised by Joseph Louis, Comte de Lagrange (Guiseppe Lodovico) in 1788, and this calculation could have been carried out in 1788 by Lagrange himself. It is already well known that the Einstein field equation is incorrect due to neglect of torsion, so to real scholars its failure in comparison with lagrangian dynamics should come as no surprise. The starting point of the lagrangian analysis is observation. The movement of planets in the solar system has been observed in astronomy since ancient times. The purpose of natural philosophy or physics is to explain observations in the simplest and clearest way, and the simplest way of describing orbits is lagrangian dynamics. As mentioned already in this essay, EGR uses lagrangian methods with an incorrect Aeffective potential@. The correct method is to describe the observed orbit analytically, and to derive the force law with the two Euler Lagrange equations for any planar orbit. This is a most elegant procedure as all who have studied it know. If this simple procedure is carried out with the analytical equation of the precessing ellipse the force law is not that claimed by EGR.

Having realized that the lagrangian method is the correct method, the calculations of light deflection and time delay follow straightforwardly with these same lagrangian methods and without the use of general relativity at all. If the photon does indeed have mass, its orbit around the sun is described in the same way as that of any mass  $m$ , so its orbit must be a precessing conic section, if it is a closed orbit it must be a precessing ellipse, so the lagrangian force law of attraction between a photon of mass  $m$  and the sun of mass  $M$  must be the sum of an inverse square and inverse cube, not the sum of an inverse square and inverse fourth as the EGR dogmatists would have it. Their calculation of gravitational light deflection and gravitational time delay must therefore be complete nonsense. This much was shown in UFT 150 and 155 and in the essay ANobody is Perfect@ written by Horst Eckardt and broadcast by Robert Cheshire and myself, with help from Simon Clifford.

The disturbing conclusion is reached that millions in money have been wasted on Aprecision tests@ of complete nonsense. Why do these Atests@ come up with numbers which cannot be right? A laundry would be familiar with such methods.

It is also known to scholars that there are errors in Einstein=s claim of 22<sup>nd</sup> 1915 to have deduced the precession of the planet Mercury, and these errors were pointed out by Schwarzschild in a letter to Einstein of 22<sup>nd</sup> Dec. 1915. EGR was based on a particular choice of infinitesimal line element, but simply by comparing that with the analytical function of a precessing ellipse that line element is easily shown again to be total nonsense as in UFT 192. This nonsense has been used to extract very large amounts of money from governments

advised by people who are closely linked to the pseudoscientists themselves. So as far as cosmology is concerned, the twentieth century was a *How dishonest century* to borrow a phrase from Auden. I think that the Count of Lagrange would have looked upon such activity with some disdain, with one raised eyebrow, as being less than entirely unscientific and dishonourable.

In our time we are running out of fuel and can no longer afford to play with childish incorrect dogma. This is what happens when a scientist, Albert Einstein, is raised on a pedestal and made into an idol of the cave.