

ESSAY 58 : THE FUNDAMENTAL ERRORS IN THE EINSTEIN FIELD EQUATION

The numerous errors large and small in the Einsteinian general relativity (EGR) have been known for almost a century, so EGR is, and always was, obsolete dogma. In UFT202 they were summarized in technical language. In this essay they are summarized in plain language. The most famous claims of the theory to have predicted perihelion precession and light bending cannot be right because the basic mathematical structure of EGR is wrong. This mathematical structure is based on an object known as the metric. In the four dimensions of EGR the metric is a four by four matrix. The metric is used to produce the infinitesimal line element, a property of vectors. There is no need to go into the mathematical detail to understand that EGR is plainly wrong from the very beginning. The dogma has survived for so long because people have incapable or unwilling to go into the mathematics. So it is easy for a few self proclaimed experts to dominate the media and give themselves prizes. I see no purpose in such an activity myself. Better to ask whether the teaching of mathematics is effective.

The infinitesimal line element used to claim falsely that EGR predicts things about orbits is plucked out of thin air by a number of assumptions given in technical language in UFT202. It is attributed to a theoretical physicist called Karl Schwarzschild, but this attribution is predictably false. In truth, Schwarzschild wrote to Einstein on December 22nd 1915 to point out that the latter's calculation of precession is wrong. As far as I know Einstein never replied, and Schwarzschild died in 1916. However, his letter has survived and is on the net, easily looked up by google and translated into English. Probably the most famous or infamous claim of the dogmatists is that this infinitesimal line element produces the orbit of planets in the solar system. This orbit is a precessing ellipse. This formidable pair of words in mathematics can be reduced to a simple equation, easy for any computer algebra package to differentiate. Anyone with a laptop can do this differentiation, the computer algebra makes sure that there are no mistakes in the differentiation.

So it is possible for any school pupil to find that EGR is wrong. This demonstration could be done in a classroom by a teacher. It is like boiling an egg in cookery, or chem prac. First ask the laptop to differentiate the equation of an ellipse. This gives an equation which is given as equation (31) of UFT202 on www.aias.us. Then take the result of the infinitesimal line element that the cooks claim to produce the boiled egg. This gives equation (30) of UFT202 on www.aias.us. The boiled egg turns out to be a pancake, eqs. (30) and (31) are not the same.

So the class agrees that the EGR is a load of Rhode Island reds and bursts into laughter. Going home to their TV sets they see that EGR is after all right, because of all those TV programmes on big bang and black holes. These TV programmes are all based on a fantasy, or as the Elizabethans would have said, an idol. A pancake is made with eggs, but there the similarity ends. There is no need to do anything more with EGR, a completely new general relativity is needed and this is what we at AIAS are working on now (January 2012). The first thing we aim to do is to make sure the basic algebra is right by using computer algebra. It is becoming difficult to keep making excuses for the dogmatists, or for Einstein himself. Any one of them could easily have checked whether their claims were right, even in the age of hand calculation, because all that is needed is O level differentiation. In other words if you cannot differentiate the equation of a precessing ellipse without a laptop you fail your O level. I have the creeping feeling that examinations at O level no longer exist because we all have laptops or ipods.

There are many other things wrong with EGR, and many of us scientists have been trying to counter the harmful dogma. The idea of basing physics on geometry goes

back to ancient times, in which the Greeks and other Peoples thought that geometry is perfection. They constructed the Parthenon with a deliberate flaw so as not to offend the gods by human pretence to perfection. In renaissance times the Greek ideas were rediscovered and developed, so Kepler for example could write: “Ubi materia ibi geometria”, which means in effect that all matter is geometry. However, you have to get the geometry right, and Einstein got it wrong by leaving out one of the pillars, called torsion. Sooner or later the roof was bound to cave in. Cartan wrote to Einstein in the early nineteen twenties to point out that the former had inferred torsion, but it took until 2003 to put things right with the emergence of ECE theory. Then some very suprising things began to happen, nearly all of EGR’s methods disintegrated.

I doubt whether things will ever be the same again. One can claim that the sun never came up this morning, but that would leave us all in permanent darkness. Nobel prizes continue to be awarded for pancakes and boiled eggs, but we all eat for breakfast those miraculous claims of verification. We do not like hard boiled pancakes.