Essay 98: The X Theory of Orbits and Refutations of
Einsteinian General Relativity

(Written by Myron Evans and broadcast by Robert Cheshire)

The x theory is developed from ECE theory by realizing that the ordinary plane polar coordinates are examples of Cartan geometry. The Cartan spin connection is the ordinary angular velocity found in any good textbook. Newtonian dynamics apply only in Cartesian coordinates, which are fixed, so Newtonian dynamics are often referred to as inertial dynamics. The plane polar coordinates rotate however, and this rotation gives rise to the centrifugal acceleration. The latter was first inferred by Huygens in the mid seventeenth century. Newton realized its existence in Principia of 1687, but the mathematical formulation of an orbit was first inferred by von Leibniz in 1689. The centrifugal and Coriolis accelerations were further developed by Coriolis in the eighteen thirties. Contemporary development relies on the plane polar coordinates, using Lagrangian or other methods. Any planar orbit is expressed by the contemporary manifestation of the 1689 Leibniz equation. The force law responsible for any planar orbit can be deduced from the equivalence principle and the conservation of total angular momentum.

The Leibniz equation defines the second derivative of the radial coordinate r with respect to time t as the sum of an attractive force and a repulsive centrifugal force. The attractive part of the force is given a negative sign and the centrifugal force is given a positive sign. John Aubrey in his “Brief Lives” mentions that it was Robert Hooke who first inferred what is now known as the inverse square law of attraction, and conveyed this information to Isaac Newton. The inverse square law is almost always attributed to Newton. Clearly, an orbit cannot be described solely with the attractive inverse square force, because an orbiting mass m would fall in to the attracting mass M. A stable orbit consists of the sum of attractive and repulsive forces. The net force law looks like the well known Lennard-Jones potential in chemistry. It has a minimum point.

When the second derivative of the radial coordinate with respect to time vanishes, the orbit is at its turning point. For circular and elliptical orbits the turning point occurs when the radial coordinate r is equal to the half right latitude of the orbit, alpha. This is also the case for the rigorously correct description of a precessing ellipse. The latter is generated from the ellipse by multiplying the angle theta of the plane polar coordinate system by the precession factor x, which is expressed as 1 + r0 / alpha where r0 is defined by 3MG / c squared. Here M is the attracting mass, G is Newton’s constant and c the vacuum speed of light. The precessing ellipse defined in this way gives a correct description of the astronomical data to high experimental precision. The x theory is built directly on the experimental data and developed using plane polar coordinates. This procedure is rigorously correct Cartan geometry, and gives rise to a well defined torsion.

The incorrect Einstein theory on the other hand neglects torsion completely, because it was developed in an era when torsion was unknown. Neglect of torsion means that curvature is also zero, and gravitation vanishes. These conclusions were gradually realized during the course of development of ECE theory and summarized in the five definitive proofs on www.aias.us. The obsolete Einstein field equation resulted in a force law that is not the force law required to describe a precessing ellipse. The rigorously correct force law of a precessing elliptical orbit is the Leibniz force law of 1689 multiplied by the square of x. These facts have been proven in UFT262 and following papers. The Einstein force law on the other hand is the Leibniz force law added to an extra term inversely proportional to the fourth power of r. The incorrect Einstein force law manifests itself through the fact that it gives an orbital turning point that is not the correct alpha, it is alpha - r0 or r0, two possible

roots of a quadratic. These roots have no physical meaning because the Einstein theory is geometrically incorrect. Torsion can never be neglected in any kind of geometry, including the geometry of the plane polar coordinates.

The x theory is a simple and powerful theory of general relativity, containing a spin connection, the ordinary angular velocity, and in the next essay it will be applied to some of the most famous phenomena in theoretical physics: planetary precession, light deflection due to gravitation, gravitational time delay and the gravitational red shift. The obsolete Einstein theory simply cannot produce a precessing ellipse. This is a clear mathematical fact that cannot be ignored by any scientist.