Foreword to part II
Electromagnetism

We will review classical electromagnetism and the presence of scalar and longitudinal waves. Experimentally these are deemed absent in conventional accounts using the 'Heaviside' equations for electromagnetism, but are used in QED (quantum electrodynamic) calculations. Our interpretation is that they have been observed by Tesla. We will also discuss Liénard–Wiechert potentials.

Graham is interested in scalar and longitudinal waves, and the question arose as to what would happen if he situated himself as an observer moving with a particle of light called a photon and as well as the transverse component at right angles to its velocity, it also had a longitudinal oscillating component in its direction of travel. Using the non Lorentz heresy, we are able to confirm theoretically the results of Tesla that a faster than light velocity of longitudinal photons is measured with respect to a stationary reference frame.

On scalar and longitudinal waves, we will be connecting electromagnetism and gravitation (this is done in what is sometimes called Kaluza-Klein theory, although Kaluza and Klein wrote separately). The early work of Tesla and Brush is often mentioned by experimentalists. There are connections with other possibilities: for instance the possible identification of longitudinal waves with the de Broglie Bohm pilot waves, so this could go ahead at velocity 1.58 c, and in a double slit experiment could interfere as a wave to direct the position of the following electron. These scalar waves may be generated from oscillating intensities of electric charge as a component separate from the transverse oscillating electric and magnetic field intensities. We are interested in high frequencies for scalar waves, which may perturb the absolute, or vacuum, energy. The vacuum energy is sometimes called the zero point energy (ZPE). A question arises is whether or not the velocity of these waves is frequency dependent.