

motion with other quons within the body without having their orbital speed fluctuate, the whole quon structure coextensive with that astronomical body must rotate.

This poses questions concerning 'aether drag', particularly for the case of spinning matter. Linear motion of matter through space can carry that quon structure along with that matter without there being any momentum transfer, because a countermoving aether charge form can exist to keep dynamic balance. The quon structure, in defining the electromagnetic frame of reference, would thereby account for the null finding of the famous 1887 experiment by Michelson and Morley, otherwise seen as the Achilles' heel of aether theory.

However, aether drag in the context of rotation is an open question, a question of vital importance if we are ever to understand how that expression  $\sqrt{(G)M}$ , besides accounting for gravity, governs how stars are created.

If, within the Sun, there is an electric field radially directed from its axis of spin, and this causes the aether within the Sun to spin at a certain rate, does that account for why the Sun began to spin when it was created?

Another question that then arises is one which says that, if we create in the laboratory an electric field within a pivotally mounted rotor that is radially directed with respect to the spin axis, will the aether within that rotor begin to spin and drag the rotor with it?

If this were possible then surely it would have been discovered already, would it not? Here, at the very outset of this work, is my dilemma. I am asking questions which should have answers, given that we claim to know so much about the physical truths that govern our universe. Aether drag with no inertial problem has for some unknown reason been discounted in favour of Einstein's doctrines, even though it seems possible, but its experimental proof has eluded us. Yet, in the context of rotation, experimentation is surely possible.

Now I can say that I have encountered in my own experiments some evidence of aether drag that warrants mention. I had assembled an electric motor which incorporated permanent magnets that

produced a magnetic field directed along the spin axis, a field which penetrated through conductive ferromagnetic rotor laminations having eight pole faces. It was coupled to an auxiliary drive motor and my object was to apply power to the drive motor to run the speed up to a certain level and then apply electric current pulsations to a solenoid wound around the motor to see how effective this was at taking over the drive operation as the power to the auxiliary motor was reduced.

Note that spinning such a rotor incorporating a magnet will develop a radial electric field in those conductive rotor laminations, this being potentially a recipe for inducing aether spin, if such exists.

What I found, to my surprise, was that, under initial start-up conditions, it took a minute or so to run up to the operating speed, whereas, if I switched off to bring the rotor to rest but then promptly applied start-up power, the motor would run up to speed in a matter of seconds. Leaving half an hour between stop and restart caused the system to revert to its longer run-up period. I even tested this for different orientations of the motor spin axis and found the phenomenon direction sensitive.

On reflection I see that as evidence pertaining to aether spin but, for the purpose of this account of *The Theory of Everything* I will seek other foundation for what I shall now describe in the pages ahead. I will, however, draw the reader's attention to a paper published long ago, in 1905, the research antedating the advent of Einstein's theory. The author, H. A. Wilson, was a Fellow of Trinity College, Cambridge at the time and the submission of the paper had the support of J. J. Thomson. It appeared in *Philosophical Transactions of the Royal Society*, **204**, 121-137 (1905).

Wilson's experiment involved rotation of a capacitor having concentric cylindrical electrodes. It was rotated about its central axis and had a solenoid powered by d.c. current for setting up a magnetic field along that spin axis. The capacitor had ebonite as dielectric and the object of the experiment was to see if rotation in a magnetic field would induce changes in the electric charge of the capacitor linearly proportional to the dielectric constant.

Keep in mind that, where there is a dielectric medium between the capacitor electrodes, the capacitor charge is proportional to  $\epsilon$ , the dielectric constant, and comprises a component  $\epsilon - 1$  attributable to the dielectric and a component 1 attributable to the aether. So, given charge rotation in a magnetic field, we have two separate components that should make their respective contributions to the capacitor charge.

What Wilson found was that he could measure a change in capacitor charge attributable to rotation but it was proportional, not to  $\epsilon$  but to  $\epsilon - 1$ . It was as if the aether itself was not sharing the rotation, though verifying that was not the purpose of the experiment. The purpose was to test whether a theoretical proposition of H. A. Lorentz was true or not, confirmation being the result.

Now, on reading the full details of Wilson's paper, I had reason to wonder how his findings would have developed had he been seeking instead evidence of aether drag. I was very surprised to read what he said about the problems he encountered in performing the tests. My interest, you see, given that I believe a radially-directed electric charge in the aether causes the aether to spin about the defined axis, is in knowing how the aether copes when the rotor under test is forced to spin at a different rate.

It is therefore fascinating to read that, in order to get any consistency in his measurement data, given that he was using test speeds that were close to 12,000 rpm, he had to make a series of tests in which he reversed direction of the current in the solenoid and so the magnetic field at intervals of a few seconds. It was as if the aether was developing its own drag effect very gradually and was being thwarted in developing its spin by the reversals of the magnetic field and so could not react as it might do normally under steady state conditions.

Such issues pertaining to aether theory should have been fully resolved long ago, but physicists, in choosing to discard the aether in favour of man-made laws and rules based on empirical findings of limited scope, have merely bequeathed the problem to future generations.