

PIERS: Progress In Electromagnetism — Relativity Superseded

Piers Hutchinson

MA Oxon, 485 Hilson Ave, Ottawa K1Z 6C6, Canada

Abstract— In the conflict between probabilistic Quantum Mechanics and deterministic Relativity, this paper sides with QM and explains free will. Einstein wrote, “Everything is determined, the beginning as well as the end, by forces over which we have no control; human beings, vegetables, or cosmic dust, we all dance to a *mysterious* tune, intoned in the distance by an *invisible piper*”. In fact only time past is determined; time future is open.

The basic idea of this paper is not new. It is Maxwell’s medium for electromagnetism, which Einstein rejected following the null result of the Michelson-Morley experiment conducted in 1887 when he was 8 years old. But the null result actually came from the fact that Maxwell’s medium revolves with the earth, like the atmosphere. If the experiment is repeated on a *moving* platform — for example on a high-speed train — it shows a positive result, as in the experiment of D. Wang et al. [1]. Maxwell was able to predict the speed of light (680,000,000 mph) from the permeability μ and permittivity ε of its medium via the formula $1/\sqrt{\mu\varepsilon}$ just as we can predict the speed of sound in its various media using the same formula.

The new idea is that Maxwell’s medium is made of basic particles of Plank length and mass, here called ‘evrons’, of which all matter (all particles) are made. This is the missing ‘Dark Matter’ which rotates with a galaxy keeping the outer stars up to the speed of the inner stars. The four forces are made of pressure waves of different wavelengths in the medium. This is the missing ‘Dark Energy’. The evrons carry the forces as molecules carry sound. The waves are polarized like those of sound passing through steel. The medium allows any number of radio telephone conversations to pass through every small spot in a room at the same time. The new idea is that the so-called relativistic effects are actually drag effects of the medium that follow Lorentz’s drag formula, $\sqrt{1 - (v/c)^2}$: the mass increase of a speeding electron is the build-up of evrons ahead of the electron; the slowing of clocks on speeding GPS satellites is caused by evronic pressure.

The medium allows us to be rid of many anomalies of modern physics while explaining the strange data of some of its experiments. We can be rid of unexplained ‘singularities’ like the Big Bang and explain the Red-shift and the Cosmic Microwave Background by the spreading, in the evrons, of light waves from stars in an endless universe. This in turn explains the existence of clusters of galaxies that took far longer to form than the 13.8 billion years allowed by Big Bang theory and the recent discovery of mature galaxies, needing billions of years to form, existing 12 billion years ago [2].

Standard physics has matter pulling other matter with an unexplained negative force called ‘Gravity’. The new idea is that gravity is positive evronic pressure which is stronger near massive structures owing to the diminution of counteracting pressure, as when clocks on GPS satellites are slowed when closer to the earth.

The new idea is that energy is always a pressure wave and never a particle; so we can be rid of any inexplicable change of matter into energy in a nuclear bomb. Instead, the bomb releases the binding evronic energy according to $e = mc^2$ while the nucleons are conserved. The new idea is that Electricity is not made of electrons (matter) but is pressure in the evrons (energy), which accounts for the electrical field surrounding a live wire. Atoms are not solar-systems, which would knock each other’s electrons out of orbit when sodium met chlorine, but nucleons projecting pressure patterns into the evrons described by the Schrodinger *wave* equation.

Unification comes in the understanding that particles are spinning collections of evrons (nearly 100 billion in a proton and 50 million in an electron) [3], with antiparticles spinning in the opposite direction. This explains particles appearing out of, and disappearing into, the so-called vacuum in the Hadron Collider, with more mass in the products of a hadron collision than were put into the experiment [4]. The photoelectric effect is the creation of an electron. The strange finding of the two-slit experiment of a particle seeming to go through two slits at the same time is explained by the fact that, however weak, light is always a wave in the evrons (which can go through both slits at the same time) and never a particle. The so-called ‘non-locality’ (statistical) experiments are explained by reflections of waves affecting the waves that follow.

The medium allows the development of life epigenetically [outside the genes rather than by ‘selfish’ genes], from the lighter elements H, C, O, N, P or S. The missing ‘variation’ of Darwin’s ‘variation and natural selection’ comes from the recombination of genes at conception — this is the reason for sexual reproduction instead of the less energetic cloning which only takes place in the absence of competition — and not through random mutation which is generally deleterious. Human creativity mirrors natural creativity [5]. The management of an organism is through waves — for example the wave structure of an antibody is complementary to part of the wave structure of an antigen.

The major confirmation of evrons comes from their explanation of consciousness. Evrons fill the three parts of the nervous system — sensory, autonomic and motor. Perception is explained by waves from the environment resonating with similar wave patterns perceived earlier reverberating in the sensory nervous system. [If sensation were transmitted to the brain in nervous impulses moving at only 100 mph, virtually all the data arriving at 680,000,000 mph would be lost.] Waves allow the perception of a wide angle of a scene in a single fixation, unlike a digital camera which has to scan the scene. Waves allow the blending of fixations. Waves allow the blending of present with past so that a table can be seen as similar to other tables. Waves allow the blending of the senses which all produce data in waves, including smell [6] and the magnetic sense of birds and the infrared sense of snakes. The speed of light allows a touch to the toe to be perceived as simultaneous to a simultaneous touch to the nose [7]. Waves allow the combination of sensation in the sensory nervous system with *feeling* in the autonomic nervous system; behavior mediated by waves in the motor system can be influenced by mood; music can be an international language.

Waves bridge the time needed to build long term memory structures; and they mediate, through resonance, the retrieval of memory from those structures, coordinating the two sides of the brain at light speed. Waves dissipate, allowing short-term memory to fade (unlike the memory of a computer), to give a sense of the passage of time. Waves explain the ability of a rat to remember a maze when its brain has been sectioned [8]. Anyone can understand these words as he reads them through the coexistence in his brain in wave form of a lifetime of experience. Reverberating waves allow a savant to draw New York in detail after a short helicopter ride [9], and explain how anyone can recognize each scene in a movie he saw last week. If light were made of photons one would not be able to distinguish between one piece of furniture and another with all the reflected light in the room. If light were made of photons, the photons from distant galaxies would spread out and miss earthbound telescopes.

Above all, waves allow a blending of past and present to give a sense of where things will be in the future — for instance when trying to cross a busy intersection — and hence a chance to intervene to change that future. This is in opposition to Einstein, Stephen Hawking, Richard Dawkins and Steven Pinker who have all said that free will is an illusion. Through superposition, waves allow us to see the world in perspective — we are not bound, as Einstein said, to one frame of reference. The Uncertainty Principle says that we cannot measure the position and the momentum of a particle at the same time, but any particle does have a fixed position and momentum at any one time — Schrodinger’s cat is either alive or dead. Waves even allow us the perspective to alter what we want — the addict can resist his temptation; the hunger-striker can overcome his hunger and the suicide bomber can overcome his will to live.

String Theorists following Einstein have been searching for the last four decades for a grand design (a set of equations) that would predict everything. They have not found one. There is a basic conflict between smooth Relativity, which works as if everything were predetermined by a mathematician, and bitty Quantum Mechanics, which works on the Uncertainty Principle. The new idea is that nothing is predetermined and that there was no *design* before animals like us. Each of our bodies is built from scratch using a set of genes that allowed our parents to survive, so that in a single generation completely new organisms like conjoint-twins are produced. Each of our lives is built from scratch, with the freedom to make unpredictable changes. We are not predetermined. The superposition of waves allows all the uniquely human things — the love of solving problems, vicarious enjoyment, laughter on seeing a joke, the correction of error and the working towards long-term goals.

REFERENCES

1. Wang, R., et al., *Physics Letters A*, Vol. 312, 7–10, 2003.
2. *Astrophysics Journal*, Mar. 2014.
3. Enrique, M.-R., “Reconstructing modern physics,” 2009.

4. Hadron, C., “Proton-proton runs,” Dec. 2010.
5. Adrian, B., *Shape and Structure, from Engineering to Nature*, 2000.
6. Luca, T., “The science of scent,” *TED Conference*, 2006.
7. David, M. E., “What’s next?,” 155, 2009.
8. Karl, S. L., *Symposium of Society of Experimental Biology*, Vol. 4, 454–482, 1950.
9. Stephen, W., *Panorama*, New York, 2009.