

The Ether - but not the one you think

By Reed Carson, [Blavatsky Net](#)

Perhaps no single word in all the writings of Blavatsky has so convinced anyone - with any basic training in science - that Theosophy is mired in the past thought of the 19th century, as has the word "ether." This is understandable - but it is NOT a correct conclusion.

There are multiple "ethers". The ether of Blavatsky and the ancients is not the ether of 19th century science.

In a strange twist on this subject - Blavatsky, in 1888, predicted that the ether would soon be rejected. She was right. It was rejected officially in 1905 when Albert Einstein first dispensed with it. So she gets credit for another prophecy fulfilled.

Now in 20th century science, there are accepted concepts for which the label "ether" has been suggested. Albert Einstein is one of those doing the suggesting.

These 20th century concepts of science may in fact be correctly approaching the lower aspects of Theosophy's ether, but the full ether of Theosophy is still quite more metaphysical.

Details

The ether of science

By the 19th century, science had proposed a number of ethers - taking the name for them from the ancient Roman "aether" which in turn came from the Greek "aither". These ethers were proposed to resolve different problems facing science and the proposals included different properties, sometimes quite contrasting, that the ether should have. The most prominent ether was called the "luminiferous ether" meaning literally "light bearing". At the beginning of the 19th century experiments appeared conclusive that light was a wave. Since all waves must have something to "wave" in, and since light from the sun and distant stars reaches us, there must be a medium between here and there in which the light could "wave". So the luminiferous ether was proposed to supply the necessary medium.

Also gravity had the disconcerting property that it appeared to operate at a distance with no direct contact between the two bodies that were mutually attracted. So a gravitational ether was proposed to avoid action-at-a-distance.

There were other ethers to solve other problems, but the principle ether in the debate has been the luminiferous ether. Sir Edmund T. Whittaker gives considerable detail on the different views of ether held by scientists in the previous century in his "A history of the Theories of Aether & Electricity".

(In case it is helpful, the ether of the anesthesiologist, is "ethyl ether", a chemical compound totally unrelated to this issue.)

Some difficulties arose for the luminiferous ether with the failure of the 1887 experiment of Michaelson and Morley to detect the ether. (It has been called the most famous experiment that failed.) Proposals were made to account for the failure to detect the ether. Finally in 1905 when Albert Einstein presented his Theory of (Special) Relativity, he noted that he no longer needed the ether. He thereby signed the death certificate for the ether and it has been unfashionable to speak of the deceased ever since.

Einstein welcomes back the ether

Einstein followed his special theory of relativity of 1905 with his general theory of relativity in 1916. In 1920 on May 5th, he delivered an address at the University of Leyden entitled "Ether and the Theory of Relativity." In this address he welcomed back the ether - but under strict terms. Here are some excerpts.

The next position which it was possible to take up in face of this state of things appeared to be the following. The ether does not exist at all. [context](#)

More careful reflection teaches us, however, that the special theory of relativity does not compel us to deny ether. We may assume the existence of an ether; only we must give up ascribing a definite state of motion to it, i.e. we must by abstraction take from it the last mechanical characteristic which Lorentz had still left it. We shall see later that this point of view, the conceivability of which I shall at once endeavour to make more intelligible by a somewhat halting comparison, is justified by the results of the general theory of relativity. [context](#)

The special theory of relativity forbids us to assume the ether to consist of particles observable through time, but **the hypothesis of ether in itself is not in conflict with the special theory of relativity.** Only we must be on our guard against ascribing a state of motion to the ether. [context](#)

But on the other hand there is a weighty argument to be adduced in favour of the ether hypothesis. To deny the ether is ultimately to assume that empty space has no physical qualities whatever. The fundamental facts of mechanics do not harmonize with this view. For the mechanical behaviour of a corporeal system hovering freely in empty space depends not only on relative positions (distances) and relative velocities, but also on its state of rotation, which physically may be taken as a characteristic not appertaining to the system in itself. [context](#)

Recapitulating, we may say that according to the general theory of relativity space is endowed with physical qualities; in this sense, therefore, there exists an ether. According to the general theory of relativity space without ether is unthinkable; for in such space there not only would be no propagation of light, but also no possibility of existence for standards of space and time (measuring-rods and clocks), nor therefore any space-time intervals in the physical sense. But this ether may not be thought of as endowed with the quality characteristic of

ponderable media, as consisting of parts which may be tracked through time. The idea of motion may not be applied to it. [context](#)

BN has not followed the entire course of Einstein's life and his opinion on the ether. It may not have been steady. Here is a comment from an article prepared by the Association of Research and Enlightenment (Edgar Cayce):

In the same paper, Dr. Seesemann shows that Einstein revoked his stand on the non-existence of ether in 1952 [shortly before his death in 1955] after the British Nobel Prize winner Dirac at the University of Cambridge "proved the actual existence of ether by mathematical means." (Congres Mondiale de Radiesthesie, Livre De Rapport, Locarno, Switzerland 1956) Quite evidently, Einstein had repeatedly changed his opinion on the subject of ether.>

Other scientists and writers welcome back the ether

Sir Edmund T. Whittaker in the preface to his scholarly and scientific "A history of the Theories of Aether and Electricity" published in 1951 said:

As everyone knows, the aether played a great part in the physics of the nineteenth century; but in the first decade of the twentieth, chiefly as result of the failure of attempts to observe the earth's motion relative to the aether, and the acceptance of the principle that such attempts must always fail, the word "aether" fell out of favour, and it became customary to refer to the interplanetary spaces as "vacuous"; the vacuum being conceived as mere emptiness, having no properties except that of propagating electromagnetic waves. But with the development of quantum electrodynamics, the vacuum has come to be regarded as the seat of the "zero-point" oscillations of the electromagnetic field, of the "zero-point" fluctuations of electric charge and current, and of a "polarisation" corresponding to a dielectric constant different from unity. **It seems absurd to retain the name "vacuum" for an entity so rich in physical properties, and the historical word "aether" may fitly be retained.**

With the above quote from Whittaker, Theosophists can fairly consider Blavatsky's position validated.

In several places Blavatsky speaks of the Plenum. Here is one:

From the earliest philosophers whose records passed to posterity, down to our present age, which, if it denies "invisible Beings" in Space, can never be so insane as to deny **a Plenum of some sort - the fulness of the universe was an accepted belief.** ... And we "hold" it too. (SDii671)

In 1954 P.A.M. Dirac, a Nobel Prize winner in physics in 1933, said,

"The aetherless basis of physical theory may have reached the end of its capabilities and we see in the aether a new hope for the future."

While Dirac was not able to develop the mathematics as he would have liked to, we note this further observation on his activities:

In 1957, however, the Nobel physicist P. A. M. Dirac asked (as the title of a paper), "Is there an ether?" He answered affirmatively, and since then other atomic scientists have suggested that **the ether may be defined as an energy-rich subquantic medium** composed of neutrinos, pervading all space, interpenetrating all matter, and acting as the common denominator in all particle reactions. The question is still being debated. (Pole Shift by John White p 54)

The science popularizer Zukav writes:

"Quantum field theory resurrects a new kind of ether, e.g. particles are excited states of the featureless ground state of the field (the vacuum state). The vacuum state is so featureless and has such high symmetry that we cannot assign a velocity to it experimentally." (page 152)

Blavatsky could have thought that the word "vacuum" refers to emptiness. She did not. Rather she explained to the readers of the SD that when the informed ancients referred to "vacuum" they meant latent force - a loose definition quite compatible with the above definitions of vacuum from science today.

"*Nature abhors Vacuum*" said the Peripatetics, who comprehended perhaps, though materialists in their way, why Democritus, with his instructor Leucippus, taught that the first principles of all things contained in the Universe were atoms and a *vacuum*. The later means simply latent Deity or force."

The very well known *Tao of Physics* by [Fritjof Capra](#) states:

"This [quantum field] is indeed an entirely new concept which has been extended to describe all subatomic particles and their interactions, each type of particle corresponding to a different field. In these 'quantum field theories', the classical contrast between the solid particles and the space surrounding them is completely overcome. The quantum field is seen as the fundamental physical entity; **a continuous medium which is present everywhere in space**. Particles are merely local condensations of the field; concentrations of energy which come and go, thereby losing their individual character and dissolving into the underlying field. In the words of Albert Einstein:

We may therefore regard matter as being constituted by the regions of space in which the field is extremely intense ... There is no place in this new kind of physics both for the field and matter, for the field is the only reality.

(page 210)

Of course, a "continuous medium which is present everywhere in space" is not an utterly new concept.

Space is neither a "limitless void," nor a "conditioned fulness," but both: being, on the plane of absolute abstraction, the ever-incognisable Deity, which is void only to finite minds, and on that of *mayavic* perception, **the Plenum, the absolute container of all that is**, whether manifested or unmanifested: it is, therefore, that ABSOLUTE ALL. There is no difference between the Christian Apostle's "In Him we live and move and have our being," and the Hindu Rishi's "The Universe lives in, proceeds from, and will return to Brahma." (SDi8)

SPACE, which, in their ignorance and iconoclastic tendency to destroy every philosophic idea of old, the modern wiseacres have proclaimed "an abstract idea" and a void, is in reality the container and the body of the Universe with its seven principles. (SDi342)

Ether of science is not the ether of Blavatsky

Blavatsky mentions the ether in numerous places in the SD and her comments are intertwined with other metaphysics. To give the best possible description of her ether then becomes a formidable task - too much for this page, and is postponed to another time.

A full description of Blavatsky's ether, if it were given, would make very clear that her ether is something different from the ether of 19th century science. What is presented here are a few comments where she separates her ether from the ether of science by declaring the ignorance of science on the true nature of the ether.

For, "What is the primordial Chaos but Aether?" it is asked in "ISIS UNVEILED." **Not the modern. Ether; not such as is recognised now**, but such as *was* known to the ancient philosophers long before the time of Moses; but Aether, with all its mysterious and occult properties, containing in itself the germs of universal creation. SDi332

On SDi485 she begins a several page long discussion of the views of science of her day on the ether.

Now, **what does the modern science of physics know of Aether**, the first concept of which belongs undeniably to ancient philosophers. (SDi485)

She concludes:

Thus whether the followers of the Royal Society choose to accept ether as a *continuous* or a *discontinuous* fluid matters little, and is indifferent to the present purpose. It simply points to one certainty: **Official Science knows nothing to this day of the constitution of ether.** (SDi487)

And finally,

The **knowledge of the real (not the hypothetical) nature of Ether**, or rather of the Akasa, and other mysteries, in short, can alone lead to the knowledge of Forces. (SDi587)

Prediction of rejection of ether

In the following statement, published in the SD in 1888, Blavatsky observes that the ancient idea of ether has been admitted as the Ether of Space. She then, almost incidentally, says it is "now about to be rejected".

The septenary gradation, and the innumerable subdivisions and differences, made by the ancients between the powers of *Ether* collectively, from its outward fringe of effects, with which our Science is so familiar, up to the "Imponderable Substance," once admitted as the "Ether of Space," **now about to be rejected**, has been ever a vexing riddle for every branch of knowledge. (SDi331)

She was right. In 1905, when Albert Einstein published his article giving the special theory of relativity, he also said he no longer had any need for the ether. Since then, the term ether has generally been in disrepute. She correctly foresaw this aspect of upcoming science even while maintaining her view on the esoteric true version of ether.

This was a reasonably unusual statement for her to make. At the time of her writing the ether was generally presumed to exist. It is true that Michaelson and Morley had conducted an experiment in 1887 to detect the ether and that experiment had failed. (Exactly when the results of that experiment were published and commented upon sufficiently to normally be expected to reach Blavatsky's ears we don't know. And since the writing of the secret doctrine occurred over several years, we cannot compare those two times exactly.)

In any case, it would have been foolish for her to predict so definitely the rejection of the ether even if she had heard the results of the Michaelson/Morley experiment. The ether was not abandoned simply because that experiment failed. Mathematics was subsequently developed in the 1890's to handle the failure of the experiment. Other experiments continued trying to detect the ether until at least 1925.

Michelson himself, who received the Nobel Prize in physics in 1907 for his optical studies generally and not for "disproving the ether-concept" had his own opinion on whether or not his experimental results of 1887 disproved the ether. He was quoted in Reuterdahl's comment on Einstein, published in the Minneapolis Morning Tribune of April 14, 1923, p 21, as saying that even if relativity is here to stay we don't have to reject the ether.

So despite the failure of Michaelson/Morley's experiment, Blavatsky still gets full credit for a prophecy fulfilled.

Blavatsky Net:

<http://www.blavatsky.net/science/ether/ether.htm>