

# What is the Matter with Gravity?

John H. Drais

Symposium On H.P. Blavatsky's SECRET DOCTRINE Proceedings  
(Wizards Bookshelf, 1984)

Louis Daguerre presented his discovery of capturing an image using photochemical means to the French Academy of Sciences in 1839 and caused immediate sensations in religious, scientific and philosophical thought. The German publication LEIPZIGER STADTANZEIGER wrote

"... no man-made machine may fix the image of God. Is it possible that God would have abandoned His eternal principles, and allowed a frenchman in Paris to give to the world an invention of the Devil?"<sup>1</sup>

Science was equally confused when confronted with new evidence for the particulate nature of light. At that time the nature of light was contested and there were two leading theories. One, proposed by Newton and described in his OPTICKS in 1704, postulated that light is composed of particles. The theory most in favor, that light is propagated through the ether by wave motion, had been described by Huygens to the French Academy of Sciences in 1678. By 1875, neither theory could be totally supported.

Commenting on the results of recent research by Robert Hunt concerning chemical interactions with differently colored light, Blavatsky stated in ISIS UNVEILED,

"And still we see that under the blue ray both vegetable and animal life manifests an inordinate development, while under the yellow ray it is proportionately arrested. How is it possible to account for this satisfactorily upon any other hypothesis than that both animal and vegetable life are differently modified electro-magnetic phenomena, as yet unknown in their fundamental principles?"<sup>2</sup>

Simultaneously, she supported both theories by making an identity of Energy and Life and Matter with the One Substance-One Life of Occultism. That was far more than either Theology or Science could accept. Today, however, Science is in near total agreement, and many religious institutions are as well. This short review is a selection of quotations mostly from THE SECRET DOCTRINE describing the One Life-Substance, the process of manifestation into this sensory plane, and a comparison with currently accepted theories of relativistic quantum mechanics.

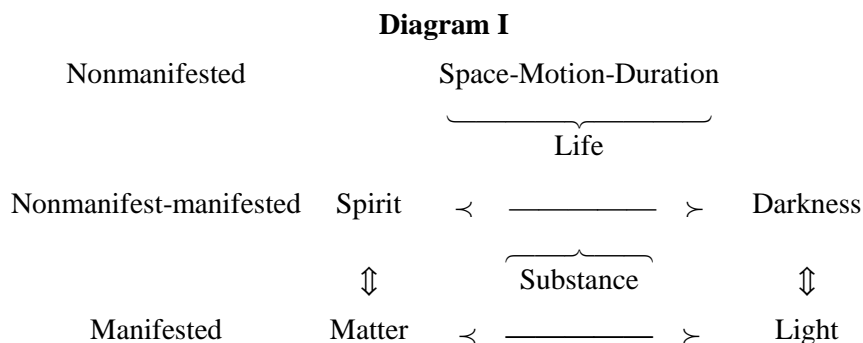
The One Life-Substance is the manifesting cause of both energy and matter in our dualized plane and can only be described as parts of apparently paradoxically related aspects. Blavatsky uses many such pairs from several traditions, but the primary ones for us are these three sets: Life to Substance; Spirit to Matter; and Darkness to Light. These relate to our manifested plane and those, which to us are unmanifest-manifested, and to that plane which is even unmanifested to the Dhyani Chohans, according to Diagram I.

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"Light is matter, and DARKNESS pure Spirit. Darkness, in its radical, metaphysical basis, is subjective and absolute light..."<sup>3</sup> and "... what we call light is simply an impression produced upon the retina of the eye by the wave-like motion of the particles of matter. Light, then, like heat - of which it is the crown - is simply the ghost, the shadow of matter in motion, the boundless, eternal, infinite SPACE, MOTION and DURATION, the trinitarian essence of that which the Deists call God, and we - the One Element; Spirit-matter, or Matter-spirit..."<sup>4</sup> The "principle of Life ... on the manifested (or our plane is but the effect and result of the intelligent action of the 'Host' - collectively, Principle - the manifesting LIFE and LIGHT."<sup>5</sup> All such doubled aspects are merely attempts to express the apparent but mayavic duality of our world from the viewpoint of a non-dualist, and to convey the hermaphroditic and unitary conditions of this abstract SPACE.

Life, then, or the conscious essence, is the "Cosmic Dhyani-Chohans, Entities, whose essence, in its dual nature, is the Cause of all terrestrial phenomena. For that essence is consubstantial with the universal, Electric Ocean, which is LIFE; and being dual, as said - positive and negative - it is the emanations of that duality that act now on earth under the name of 'modes of motion'..."<sup>6</sup> The universal Electric Ocean is "the primordial Fire-Mist"<sup>7</sup>, space filled with life-substance centers of force, called the Devourers. These life-germs, seeds or Spiritual-particles are "...supersensuous matter existing in a state of primeval differentiation..."<sup>8</sup> This "...Initial existence - which may be called while in this state of being the ONE LIFE, is ... a FILM for creative or formative purposes."<sup>9</sup> But these seeds are only matter in potentia. They are the precursors of the wave-particles she described.

Space in this condition of Pralaya is abstract to us. After all, can Motion exist if there is nothing to move? Can Light exist if there is no Darkness? Can time exist with no relations by which to measure it? Or, can Matter exist if there is no Life? "Behold, O Lanoo! The radiant Child of the two, the unparalleled refulgent Glory: Bright Space, Son of Dark Space, who emerges from the depths of the great Dark Waters.... The Ray dropped at the first thrill of the new 'Dawn' into the great Cosmic depths,

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from which it reemerges differentiated as Oeaoohoo the younger (the 'New Life'), to become to the end of the life cycle, the germ of all things. He is the 'Incorporeal man who contains in himself the divine Idea' the generator of Light and Life...."<sup>10</sup>

"The Swift and Radiant One produces the seven Laya Centres... The seven Laya centres are the seven Zero-points, using the term Zero in the same sense that chemists do, to indicate a point at which, in Esotericism, the scale of reckoning of differentiation begins. From these Centres"... "begins the differentiation of the elements which enter into the constitution of our Solar System."<sup>11</sup> A laya or "'neutral centre' is, in one aspect, the limiting point of any given set of senses. Thus imagine two consecutive planes of matter as already formed; each of these corresponding to an appropriate set of perceptive organs. We are forced to admit that between these two planes of matter an incessant circulation takes place; and if we follow the atoms and molecules of, say, the lower in their transformation upwards, these will come to a point where they pass all-together beyond the range of the faculties we are using on the lower plane. In fact, for us the matter of the lower plane there vanishes from our perception into nothing..."<sup>12</sup> although "...that 'point', invisible on our plane of perception and matter, is quite visible to the adept who can follow and see it on other planes."<sup>13</sup>

This differentiation is sevenfold. "In its Unity, primordial light is the seventh, or highest, principle, Daiviprakriti, the light of the unmanifested Logos. But in its differentiation it becomes Fohat, or the 'Seven Sons'."<sup>14</sup> "'That' which links spirit to matter, subject to object... is called by the occultists Fohat. It is the 'bridge' by which the 'Ideas' existing in the 'Divine Thought' are impressed on Cosmic substance as the 'Laws of Nature.' Fohat is thus the dynamic energy of Cosmic Ideation.... From Spirit, or Cosmic Ideation, comes our consciousness: from Cosmic Substance the several vehicles in which that consciousness is individualized and attains to self - or reflective - consciousness; while Fohat, in its various manifestations, is the mysterious link between Mind and Matter, the animating principle electrifying every atom into life."<sup>15</sup>

Thus, from prima materia "separating itself into its primary seven states, it proceeds down cyclically; when having consolidated itself in its LAST principle as GROSS MATTER, it resolves around itself and informs, with the seventh emanation of the last, the first and the lowest element."<sup>16</sup> "Matter or Substance is septenary within our World, as it is so beyond it. Moreover, each of its states or principles is graduated into seven degrees of density. SURYA [the Sun], in its visible reflection, exhibits the first, or lowest state of the seventh, the highest state of the Universal PRESENCE.... All the Central physical or objective Suns are in their substance the lowest state of the first Principle of the BREATH. Nor are any of these more than REFLECTIONS of their PRIMARIES which are concealed from the gaze of all but the Dhyani-Chohans, whose corporeal substance belongs to the fifth division of the seventh Principle of the

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Mother-substance, and is, therefore, four degrees higher than the solar reflected substance."<sup>17</sup>

Materialism holds, Gravity is a Law, a cause in itself; Idealism, that there is another cause of attraction, that is, gravity is but the secondary effect of the cause.<sup>18</sup> "Matter, to the Occultist, it must be remembered, is that totality of existences in the Kosmos, which falls within any of the planes of possible perception."<sup>19</sup> Therefore, even those states of matter on our plane which can not be perceived by normal sensitivity are included in the definition of matter. It is not the motion of "the matter of our terrestrial objective consciousness..." which sets up "those etheric tremors"<sup>20</sup> or forces. If the men of science "would fathom the ultimate nature of these Forces, they have first to admit their substantial nature, however supersensuous. Neither do the Occultists deny the correctness of the vibratory theory. Only they limit its function to our Earth - declaring its inadequacy on other planes than ours, since 'Masters' in the Occult Sciences perceive the CAUSES that produce ethereal vibrations.... The Occultists are taken to task for calling the Cause of..." such manifestations as light, heat, magnetism, electricity, sound, adhesion, gravity, etc. "...the 'substance'."<sup>21</sup> But Occultism believes that they "...are not the final causes of the visible phenomena, including planetary motion, but themselves Secondary effects of other Causes...."<sup>22</sup> "Fohat... on the Cosmic plane is behind all such manifestations..., and is the 'spirit' of ELECTRICITY, which is the LIFE of the Universe. As an abstraction, we call it the ONE LIFE"<sup>23</sup>; "...matter is the condition - the necessary basis or vehicle, a sine qua non - for the manifestation of these forces, or agents, on this plane."<sup>24</sup> They all "are the ghost or shadow of matter in motion."<sup>25</sup> Blavatsky has here clearly laid out the philosophical basis for the unification of all so called "forces" of science with the One Life-Substance.

James Clerk Maxwell published his TREATISE ON ELECTRICITY AND MAGNETISM in 1873 in which he explained all known electrical and magnetic phenomena as being in their essence different aspects of the same force. That is, he unified the forces of Electricity and Magnetism. "He also proposed that light was electromagnetic radiation, that it consisted of oscillating electric and magnetic fields."<sup>26</sup> Hertz proved him correct in 1887 and Marconi extended the spectrum to radio waves in 1895. It was not until 1905, however, that Einstein managed to unify all electromagnetic fields under one description. The last thirty years of his life were spent in searching for the theory that would unify gravity with the other forces as Blavatsky had suggested. Thirty years later the task has yet to be accomplished, even though the theories of Grand Unification look more and more promising, and the other three natural forces have been unified and shown to be part of the same energy spectrum.<sup>27</sup>

There are two primary philosophical systems possible to explain the obvious evolution of form and consciousness. They are called Materialism and Idealism. Materialism holds that matter is eternal and mind is a product of the structure and interaction of its atoms. To them

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light is made up of particles and transmits the electromagnetic force through the vacuum of space; they agree with Newton's theory of the nature of light. Idealists, on the other hand, believe matter to be a production of mind and that light is propagated through space by undulatory motions in the infilling ether; they are in accord with the theory of the nature of light proposed by Huygens.<sup>28</sup> Resynthesizing these two systems Occultism answers: "If too much wrong superstition bred by 'churchianity' - as Lawrence Oliphant calls it - 'renders a man a fool,' too much skepticism makes him mad. We prefer the charge of folly in believing too much, to that of a madness which denies everything, as do Materialism and Idealism."<sup>29</sup> The evidence is quite clear, light is composed of what might be called wave-particles. "For the Occultist Light is both Spirit and Matter."<sup>30</sup>

The manner of propagation, however, is still undetermined. Is it by particles though a vacuum or waves in ether? "In 1887 two physicists, Albert Michelson and Edward Morley, set up an experiment which they were sure would show that an ether existed...." To their "astonishment, the experiment detected no ether wind whatsoever."<sup>31</sup> "According to Newtonian theory and Galilean transformation the mechanical motion of an object with respect to an inertial system could be predicted from a knowledge of the forces acting on it and the initial conditions without any knowledge of the motion of the inertial system itself. Einstein extended this to optical phenomena, postulating that these also could be described without knowing the velocity of the laboratory with respect to the rest of the universe. The null result of Michelson-Morley and other attempts to measure the velocity of the laboratory relative to the ether was then interpreted as an immediate consequence of a fundamental principle of relativity."

Democritus is well known for postulating the atom, the basic building block of the universe, indivisible and indistinguishable from all other such atoms. Physicists were secure in their knowledge of the identity of the atoms of the elements until so much evidence supporting the minute particulate nature of light could not be ignored. With Crookes' discovery of radiant matter, their confidence was destroyed. Certainly, those particles we term "atoms" are not the building blocks of Democritus. The "atom" is the first manifestation on this plane of the substance from which all is built. Before manifestation, Blavatsky calls them centers of force or "sleeping atoms"; "life atoms" are the first efflorescence of that substance on this perceptive plane.<sup>33</sup> "Light is the first begotten, and the first emanation of the Supreme, and Light is Life, says the Evangelist [and the Kabalist]. Both are electricity - the life principle, the anima mundi pervading the universe, the electric vivifier of all things. Light is the great Protean magician, and under the Divine Will of the architect,... its multifarious, omnipotent waves gives birth to every form as well as to every living being."<sup>34</sup> "The same infinitesimal invisible lives compose the atoms of the body of the mountain and the daisy, of the man and the ant, of

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the elephant, and of the tree which shelters him from the sun. Each particle ... is a life."<sup>35</sup>

In 1900 the Quantum Theory was introduced. "Planck had discovered that light was emitted in little bundles of energy which he called quanta.... It was the kind of result one would expect if light were made up of particles...." Confirmation was quick in coming. In 1905 "...Einstein showed that light was indeed made up of particles, that it was emitted in quanta, that it traveled through space as quanta, and that it was absorbed by matter as quanta...."<sup>36</sup> The dual nature of light had now to be accepted "and the British Physicist Sir William Bragg remarked that there seemed to be no recourse but to believe in waves on Monday, Wednesday and Friday, and to use the particle theory on Tuesday, Thursday and Saturday. Before long some anonymous wit had added, 'and on Sunday we pray for enlightenment."<sup>37</sup>

How prophetic it was when Blavatsky said that Crookes' "discovery of radiant matter will have resulted in a further elucidation with regard to the true source of light, and revolutionized all the present speculations."<sup>38</sup> The scientific opinion is now that "light is emitted by atoms in the form of quanta, or photons, as they are called today. Light, however, is neither a particle nor a wave; it has characteristics common to both"<sup>39</sup>. "Light is emitted from an atom when an electron jumps from one orbit to another"<sup>40</sup> according to Bohr's atomic quantum theory. This theory of orbitally quantized electrons was broadened by Heisenberg and Schrodinger in their quantum mechanics in the mid-1920's. They postulated that the electron should be pictured not as a particle, but as a packet of waves.

Einstein once again, in 1905, explained the photoelectric effect as the collision between a photon and an electron, for which he received the Nobel Prize in 1921. "Thanks to Einstein, magnetism is nowadays understood to be simply a relativistic version of the electric force - an effect of charges in motion. And in electromagnetic radiation a dose of changing magnetism creates a dose of changing electricity nearby, which in turn creates another dose of changing electricity ... and so on. This performance always progresses through empty space at the same speed - the speed of light."<sup>41</sup> Under the rules of relativistic quantum mechanics, the process is something like his. A quantum of electromagnetic radiation, say a photon, passes its effects through space at the speed of light. When it encounters an electromagnetic field in an atom, it couples with it. This interaction is seen as an absorption of a photon of light by an electron, which moves the electron into an energized state, a higher energy level. Since only certain levels are allowed, that is they are quantized, when the electron returns to its rest state, a certain amount of energy is released, which we see as light of a given wavelength and not as a continuous spectrum.

This transition is fatal to materialistic science, just as Blavatsky predicted. Since both the electron and photon, as well as all atomic particles, are quantized, they can only exist at certain specified energies.

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When the photon interacts with the electron, the photon is absorbed and the electron vanishes. It can not simply increase its energy to the next allowed state, for it can not exist at the inbetween levels. Accordingly, it vanishes from its stable rest state and reappears in its more energetic, but less stable state. In order to return to its rest state, it dematerializes, so to speak, releases a quantum of electromagnetic radiation, a photon, and rematerializes in its rest state. Clearly, the photoelectron transits through the Laya twice in the process, absorbing and reemitting light-life energy as it does.

Today all forces in nature have been resolved into four categories. With each of the force fields there is an associated field quantum. For the electromagnetic force there is a photon; for the strong nuclear force there are gluons which hold quarks into hadrons (neutrons, protons, and mesons); for the weak nuclear force the W particle postulated was indentified in 1983; and for the gravitational force the graviton is suspected. All these forces have been unified, that is, shown to be special cases of one universal force, with the lingering exception of Gravity. As these quanta are distinguishable one from the other, even they are not the "life atoms". Since there are seven forces in nature, according to Blavatsky, it is reasonable to expect that when the other three fundamental forces are discovered and unified, the true nature of the "atom" will be apparent. That we are close seems evident, since all these field quanta have zero mass and differ from one another only in their type of "charge" and in their intrinsic angular momentum (spin).

But how then can the life atoms, being massless, build themselves into massive particles? "The very origin of mass is one of the profoundest mysteries and one which seems unlikely to be solved until the relationship of gravitation to the other forces is properly understood."<sup>42</sup> The keys are probably locked up in what we term "charge". "Einstein found that the gravitational charge could be represented in terms of curvature in a four-dimensional manifold of space and time, and this gravitational charge is the same as inertial mass."<sup>43</sup> Mass is a measure of inertia, the reluctance of a body to change its motion, so the force required to achieve a given acceleration is proportional to mass. Einstein showed that the metrics of our space-time environment depend on the local distribution of mass and energy, which means the mass of an object depends on its speed relative to an observer. The relativistic mass of a particle is the sum, therefore, of the rest mass, its mass whith relative speed of zero, plus the kinetic energy of motion. So, energy also has inertia and is consequently subject to the gravitational force, the strength of the field being measured by mass just as we measure the strength of an electric field by its electric charge.<sup>44</sup> Relativistically, Einstein's famous relation equating energy and mass becomes: The Total Energy of a Particle is proportional to the sum of its Rest Energy and its Kinetic Energy of Motion. This is equivalent to saying: The Total Energy of a Particle is proportional to the sum of its Rest Mass and its Inertial Mass.

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All field quanta have zero rest mass, therefore their apparent mass is kinetic energy of motion and their speed must always be that of light. The only time we observe a photon is upon our interference with its propagation through the universal gravitational field of space. If there was a particle we might say it was in free fall, but there is merely a potential field quantum until there is an interaction with the field. This quantum is a center of force which is almost manifest on our perceptive plane and always moves at the speed of light and whose mass (or wavelength) depends on its acceleration relative to an observer. The universal gravitational field is "...the radiant light of the universal magnetic ocean, whose electric waves bind the cosmos together and in their ceaseless motion penetrate every atom and molecule in the boundless creation..."<sup>45</sup> This makes the field quantum a life atom, but only for our level of perception.

Inertia, we said, is the reluctance to change in motion and reluctance is a measure of mass. We measure inertia by momentum, the product of mass and the relative acceleration. Since acceleration is a time function, time is one of the metrics that changes according to the distribution of energy and mass, just as Einstein predicted. "Because the parts of space cannot be seen, or distinguished from one another by our senses, therefore in their stead we use sensible measures of them. For from the positions and distances of things from any body considered as immovable, we define all places; and then with respect to such places, we estimate all motions, considering bodies as transferred from some of those places into others. And so, instead of absolute places and motions, we use relative ones; and that without any inconvenience in common affairs; but in philosophical disquisitions, we ought to abstract from our senses, and consider things themselves, distinct from what are only sensible measures of them. For it may be that there is no body really at rest, to which the places and motions of others may be referred."<sup>46</sup> This remarkable statement on relativity was made in 1686 in MATHEMATICAL PRINCIPLES OF NATURAL PHILOSOPHY, by Sir Isaac Newton. Einstein merely expanded this concept to light and showed time to be a metric of the space rather than an absolute.

"Time is only an illusion produced by the succession of our states of consciousness as we travel through eternal duration"<sup>47</sup> and "Space and Time are one."<sup>48</sup> It should come as no surprise, then, that our concept of gravitational attraction is entangled with our perception of mass and time. Since "time can be defined only in terms of the relative frequency of reoccurrence of relative angular changes of the observer's environment..."<sup>48</sup> and the same can be said of mass or any other metric of any spatial force field, then if we define a natural geometry such that a particular observer is at rest, we will perceive a field of force which "represents the discrepancy between the natural geometry of a coordinate-system and the abstract geometry arbitrarily ascribed to it."<sup>50</sup> In the case of time we find there are time shells around black holes or any rest energy

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center.<sup>51</sup> That is, the nature of space is altered by the presence of the center of force within it.

The famed apple which illumined, if not enlightened, Newton by falling on his head, making him perceive a mutual attraction of matter, is properly described without recourse to any force of gravity. This is true since, as we have seen, there is not any matter which could cause gravity; and, since "an apple falling freely has no force acting upon it. Consequently it can neither gain nor lose energy. But if it enters a region of slower time you will see it losing energy..." which would be a violation of the law of conservation of energy, "...unless it acquires energy of motion. Accordingly you see it speed up as it falls, and its total energy remains unchanged. Then it hits the ground - splat! It sheds its energy of motion and settles down with the lesser rest-energy befitting its lower station.... The distortions of space and time reinforce one another and create the invisible tracks on which unpowered objects run - for example the orbit of the Moon around the Earth. In short, a massive body distorts time and space around it, and those distortions guide the movements of other objects in its vicinity. Gravity is a peculiarity of space itself, not of individual items in it."<sup>52</sup>

The Occultists are not "foolish, after all, in rejecting even the 'gravity' of modern science along with other physical laws, and accepting instead attraction and repulsion." They see, moreover, in these two opposite Forces only the two aspects of the universal unit, called "Manifesting MIND."<sup>53</sup> "Until gravitation is understood to be simply magnetic attraction and repulsion, and the part played by magnetism itself in the endless correlations of forces in the ether of space..."<sup>54</sup> is fathomed, Materialism will search in vain for the smallest, irreducible, massive particle. "It is on the doctrine of the illusive nature of matter, and the infinite divisibility of the atom, that the whole science of Occultism is built."<sup>55</sup> The Occultists say that "...only the substance or essence of matter, is indestructible and eternal..., and assert that all the so called Forces of Nature,... far from being modes of motion of material particles, are in esse, i.e., in their ultimate constitution, the differentiated aspects of that Universal Motion which..."<sup>56</sup> "...is called in esoteric parlance the 'Great Breath,' which is the perpetual motion of the universe, in the sense of limitless, ever-present SPACE."<sup>57</sup>

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