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## The Constitution of Matter

### Atoms, Monads, Ether, and Space

by J. D. Buck      May 7, 1892

Everyone who is at all familiar with the progress and present status of science is aware, that not only great differences, but great uncertainties exist regarding the constitution of matter, and the real basis of the ordinary phenomena of nature. Indeed the dearth of real knowledge here is fully demonstrated by the very fact of disagreement among the most advanced thinkers and cultivators of science. So great indeed, are these discrepancies among the brilliant luminaries of modern science, that one who is at all familiar with them need be in no fear of the charge of immodesty in suggesting any theory or making any estimate that fancy can devise.

Take as a single illustration the so-called scientific estimate of the heat of the Sun. "Mr. Robert Ward, discussing the question of heat and light in the November Journal of Science 1881 shows us how utterly ignorant is science about one of the commonest facts of nature.... He says "the question of the temperature of the Sun has been the subject of investigation with many scientists: Newton one of the first investigators of this problem, tried to determine it, and after him all the scientists who have been occupied with calorimetry have followed his example. All have believed themselves successful and have formulated their results with great confidence. The following, in chronological order of publication of the results, are the temperatures (in centigrade degrees) found by each: Newton 1,699,300 degrees; Pouillet 1461 degrees; Tollner 102,200 degrees; Secchi 5,344,840 degrees; Erickson 2,726,700 degrees; Fizeau 7500 degrees; Waterson 9,000,000 degrees; Sporen 27,000 degrees; Deville 9500 degrees; Soreto 801,846 degrees; vicaire 1500°; Rossetti 20,000 degrees; The difference is as 1400, against 9,000,000 or not less than 898,860 degrees. There probably does not exist in science and more astonishing contradiction than that revealed in these figures, and yet, says the author of the secret doctrine from whom I quote, without doubt if an occultist were to give out an estimate, each of these gentlemen would vehemently protest in the name of "Exact Science" at the rejection of his special result"

Modern science regards the so-called physical forces as affections of matter or modes of motion in matter. If science in our day is so very uncertain as to force, it may be imagined that when we come to matter itself, we shall find agreement and exactness. But here again we are doomed to disappointment. In his Concepts of Modern Physics our honored townsmen Judge Stallo, has shown

equal disagreement regarding the nature of the atoms that are supposed to constitute all physical substances. "It must not be forgotten" says he "that several departments of science are simply arbitrary divisions of labor. In these several departments the same physical object may be considered under different aspects. The physical may study its molecular relations, while the chemist determines its atomic constitution. But when they both deal with the same element or agent it can not have one set of properties in physics and another set contradictory of them in chemistry. If the chemist and physicist alike assumed the existence of ultimate atoms absolutely invariable in bulk and weight, the atom can not be a cube, or oblate spheroid for physical, and a sphere for chemical purposes. A group of constant atoms can not be an aggregate of extended and absolutely inert and impenetrable masses in a crucible or retort and a system of mere centers of force as part of a magnet or of a Clamond battery. The universal ether cannot be soft and mobile to please the chemist, and rigid and elastic to satisfy the physicist; it cannot be continuous at the command of the Sir William Thompson, and discontinuous on the suggestion of Couchy or Fresual".

"The eminent physicist T. A. Hirn may also be quoted as saying the same thing in the 43d volume of the *Memoirs de l'Academie Royal Belgique*. When one sees the assurance with which our to-day affirmed doctrines which attribute the collectivity, the universality of the phenomena to the motions alone of the atom, one has a right to find likewise unanimity on the qualities described to this unique being, the foundation of all that exists. Now, from the first examination of the particular systems proposed, one feels the strongest deception; one perceives that the atom of the chemist, the atom of the physicist, that of the metaphysician, and that of the mathematician, have nothing in common but the name. The inevitable result is the existing subdivision of our sciences, each of which, in its own little pigeon-hole, constitutes an atom which satisfies the requirements of the phenomena studied, without troubling itself in the least about the requirements proper to the phenomena of the neighboring pigeon-holes. There is no agreement even in one and the same science as to the properties of the atoms. Each constructs an atom to suit his own fancy, in order to explain some special phenomena with which he is particularly concerned".

It is hardly necessary to go into further details to show the inexact basis of modern scientific knowledge. If the adjective "exact" is in any way applicable to modern science, it is in regard to the so-called science as applied to mechanics, inventions and arts, and can have no reference to the basis of knowledge itself. It is true that the mind of man has felt its way and fought its progress step by step, by experiment, through hypothesis to present results; but it is equally true that this result is empyrical, tentative and neither comprehensive or final. In this long and toilsome journey, no theory has been too absurd to gain adherents; no hypothesis too fanciful to become popular. All along the line of progress are strewn the wrecks and half-submerged hulks of theories, that once ran full sail,

before the popular tide of thought. It useless to remind the authors of new theories that the same battles have been fought over and over again in the past, and "that which hath been shall be, and there is nothing new under the sun", not even the newest theory or the latest fashion. The dismantled wrecks, bleaching and slowly disappearing on the storm-beaten coast have a charmed life and like the "flying Dutchman" will reappear again and again, and he who questions their origin or seeks to know their nature and destiny, will find them at last disappearing in the mists of the past, or behold them dawning again on the horizon of the far distant future. The progress of man runs in cycles like the sun and stars, and yet if one observes closely he will find the cycles constituting a spiral. Confusion of tongues at the base and rim, but a pillar of light in the center where the stars hold their course and where the great orb of day warms and cheers the toiler who never grows dizzy or weary of climbing.

Is it then a strange thing under the sun, that in this age of exploration the mind of the age should dig deeper and deeper into forgotten lore and sail backward into the forgotten past. The foundations of all coming time are laid in all past experience, and the present is equally a history of that which hath been and a prophecy of that which shall be. The real seeker for Truth will examine and question all things and scorn nothing. Nothing can be more unscientific than the scorn and incredulity assumed by modern science regarding the science and philosophy of the past. Little did the foremost inventor of this age, the wizard of Menlo Park, think, when the other day he advanced the idea that every atom of matter is endowed with intelligence that he was simply voicing a fragment of archaic wisdom, and quoting a line from the Vedas, nor did the thousand and one newspapers that seized his statement as the latest utterance of the most magical inventor of modern times, and sent it throughout the world, realized that this truth was declared and old, before Karnak fell, and before the foundations at Ghezah were laid, and yet such is the fact. Listen to this Sanskrit sloka translated by Sir William Jones in which it is said that "the creative source of the Divine Mind. . . hidden in a veil of thick darkness, formed mirrors of the atoms of the world, and cast a reflection from its own face on every atom". If every atom reflects the Divine Mind, then every atom must not only be endowed with intelligence, but also with life. If among modern theories and speculations regarding the nature of force and the constitution of the atom, there is no agreement, and no adequate hypothesis is advanced that reconciles the relations of both force and matter, and so leads up to a concept of physics and a philosophy of nature, it may be well to inquire whether any such comprehensive philosophy has ever existed, and if so, what it is? I have not the least hesitation in declaring my conviction that such a philosophy existed, and was old and forgotten by all save a very few long before the dawn of the so-called Christian era; and that this philosophy throws more light on the constitution of matter, the nature of vital, molecular, and physical forces, than all modern theories combined and that is by no means difficult to recover this philosophy in broad outlines if not in every detail from the hoary past; and

this is precisely the need of the present age, with its material progress and conflicting theories. It matters very little if the cultivators of modern so-called "exact" science, complacently shrug their shoulders and refuse even to examine or in any way to countenance such claims, for this is the welcome accorded to almost all great modern discoveries. One and all they have had to force their way against prejudice and entrenched authority. Did not Mr. Bouillard declare in full assembly of the French Academy that a metallic plate could not possibly talk like a human being, and accuse Edison's invention of ventriloquism? To accept such a fact Mr. Bouillard said were to upset all our notions of physiology.

No philosophy of force and atom can disregard the theatre in which all natural phenomena are displayed, viz. space; while primary aggregations of atoms, and the social ether in which all matter floats and from which it springs, have all been included in any theory which aims to agree with itself in every part, and undertakes to explain natural phenomena.

It is a matter of great interest to follow the progress of thought from Bruno Descartes, Newton and Leibniz down to the latest utterances of Prof. Crookes and Mr. Keeley regarding the constitution of matter, the order of development and process of differentiation involved in Natural Evolution. This process however cannot even be outlined in a single essay. It is accessible in many quarters and is doubtless more or less familiar to all intelligent readers. Fragments from many sources enter into modern thought, and form a part, or again the basis of modern theories of science. The position given to our conception of space and time by Immanuel Kant, as pure intuitions, existing a priori in the soul, and not derived from objective experience; the monads of Bruno and Leibniz and the Vortices of Descartes, our ideas easily traced in far older writers, though often under far different names, and grouped with other and diverse speculations. The important point in this line of research is the fact that only fragments from these later writers are preserved with sufficient vitality to enter into modern thought. The theories which these fragments formed a part were often vague, fantastic and contradictory, as nearly all of them had to pay tribute to Orthodox religious views; and a reconciliation was therefore impossible, though the effort at such reconciliation was continually being made. What these bright minds and intuitive investigators might have accomplished had they been free to work and unrestrained in their utterances, who can say? One reads with sorrow and pain the efforts made to reconcile an advancing science, with a decaying creed; and behold often the brightest minds of an age slowly yielding to the fatal mission of dogmatic authority, while the bold and uncompromising truth-seekers were quenched in flame and reduced to ashes like Bruno and Servetus or as are the excommunication of Spinoza, the torches are quenched in pitch.

These brief historical references seemed necessary to bring into contrast the difference between medieval or even modern times and the days of archaic

wisdom. There was in those ancient time no conflict between religion and science, for they had one common basis. The motto of each was "There is no religion higher than truth". There was neither dream nor dogma of a personal or anthropomorphic God, and in many ancient languages there is no word that could signify such an idea. The personal absolute is the most palpable contradiction. It is an absolute absurdity. The gods of ancient religions and of all mythology were simply the idealized and individualized powers of nature. Modern science has hardly yet begun to search in the records of ancient religions for scientific data, and yet the Vidas are full of such references. It is true that the commentaries, translations and other degenerate forms of these records often fail to show such exact scientific data, for the reason that as religion filtering through ignorant interpreters degenerates every where, and at all times into superstitions, so scientific data and exact knowledge of the laws of nature in perfect accord with the pure religion degenerate into phantasms in the presence of superstition.

Fortunately the original records are still extant, and their outlines at least are accessible and it would not be a difficult task to show that in these records every important discovery of modern times has been anticipated years ago. It is not yet generally appreciated that man's intellectual life follows the law of cycles, and that ideas and philosophical concepts return again and again to play their part in the progress of a nation or a race, just as the intellectual evolutions of an individual brings him to higher and higher planes of thought, as in the case of his predecessors, even so the onward march of the centuries carries the thought of a nation or a race over the same ground, involving the same social, political and philosophical problems that have made or marred the fate of other nations and races from the beginning of time. So the spiritual life of man rests on the intellectual and the intellectual on the physical, is it any wonder, after all, that that all these should follow the law of cycles, the same as that Eternal Nature from which the entire life of man proceeds and in which it is involved. I shall now attempt to outline the teachings of this ancient philosophy, regarding the constitution of matter, from factors drawn from the Secret Doctrine. It is but just to say, that the form of this outline is my own, and its reliability must depend on the degree of intelligence with which I have been able to grasp the teachings. If it shall seem crude and disjointed, the fault is mine and in no regard belongs to the original philosophy. Fragmentary as are the teachings, they nevertheless impress the careful student with their consistency and coherence, and with their immense grasp of Cosmic principles and phenomena.

Let us then deal with —

Atoms, Monads, Ether, and Space, but in inverse order, beginning with space. Let us imagine that portion of boundless and eternal space now occupied by our own solar system, as lying in proloya, that is void of all forms, of all substance,

yet full of all potencies and possibilities, viz. of our present solar system. This, then is the theatre of the yet to be, but as yet nothing actually is. This potency without actuality is called “Be-ness” and it is symbolized in the Secret Doctrine under two aspects. On the one hand absolute abstract space, representing bare subjectivity, the one thing which no human mind can either exclude from any conception, or conceive of and by itself. On the other, absolute Abstract Motion representing unconditioned consciousness. . . . This latter aspect of the one Reality, is also symbolized by the term “The Great Breath” Herbert Spencer has of late so far modified his Agnosticism, as to assert that the nature of the “First Cause”, which the occultist morphologically derives from the “Counseless Cause”, the “Eternal” and the “Unknowable”, may be essentially the same as that consciousness which wells up within us: in short, that impersonal reality pervading the Kosmos, is the pure noumenon of thought”, Here is — “that Essence which is out of all relation to conditioned existence, and of which conscious existence is a conditioned symbol. But once that we pass in thought from this (to us) absolute Negation, duality supervenes in the contrast of Spirit (or consciousness) and Matter, Subject and Object,” Here is the foundation in thought for the beginning of creation.

“The occult Catechism contains the following questions and answers: what is it that ever is??” Space, the eternal Ampadoka. (parentless) What is it that ever was? The Germ in the Root. What is it that is ever coming and going? The Great Breath. Then there are three Eternals? No the three are one, that which ever was is one, that which ever is is one, that which is ever being and becoming is also one; and this is Space”

In this basic idea of space, as the potency of all things as yet manifesting nothing we find “Secret Doctrine Vol. I p 14: *ibid.* p 15 *ibid.* p 11 the germ and the root of all archaic thought, and the harmonious concept from which both its religion and its science logically proceed. Here is the one reality of which all else are temporary aspects, reflections, or manifestations. It is the source of all life, the parent of all matter, the reservoir of all energy, the foundation of consciousness. We may call it “God” if we choose, but certainly not a god. To what a priori concept, or innate idea can we attach the words boundless, infinite, fathomless, eternal, incomprehensible, unknowable, all containing, all upholding, all-enfolding—as to space? We cannot think beyond the confines of Space, or out of the dimensions of Space. Here is the foundation of that ancient Spiritual Pantheism, God in all things, and all things in God. Nature in all things and all things Nature, and God and Nature One; and here is the one route from which the religion and the Science of the ancient world proceeded. Following the idea of creation out from this rootless root, on that which is, and has no parent, no antecedent. “Space is called the Mother before its cosmic activity and Father-Mother at the first stage of its reawakening” and the first to awaken into life in the plastic A'kasa, Father-Mother, the Spirit and Soul of the Ether, or the plane on the

surface of the Coicle". And the potencies that lie concealed become manifest well up in Space, and from the invisible become visible. In Space lie concealed the substance, the energy, and the form of idea of all things. The plastic A'Kosa called the Father-Mother, or Spirit and Soul of the Easter, becomes therefore the vehicle of the Great Breath. Absolute Space has now something to contain, and absolute motion has something to move. The potential is now becoming the actual, and the "spoons or curds" in space begin to appear. We are now approaching Cosmic Dust or nebulous matter, but we must proceed deliberately and logically. Abstract Space is potentially Spirit Matter, and the last analysis of Spirit for finite minds is consciousness. It is therefore Cosmic Consciousness that wells up in us, and endows us with the remote perception of Subject and object. The original substance first manifesting in Space, as the Spirit and soul of the ether, is borne outwardly from the absolute, in its image or reflection.

Without pursuing in detail the long evolutionary process by which the atoms of visible matter finally appear. The important point is their logical connection with their parent source. The atoms are all conscious and intelligent, deriving these attributes from the Spirit that pervades all space and permeates all so called matters, and which manifest as life, intelligence and consciousness. The Mathematical point, a mere vortex or center of motion has now attained dimension, and we pass from a metaphysical to a physical world

The A'Kasa the nomenon, or Spirit and Soul of the Ether must be viewed from three aspects, viz., it has potentially substance, energy and form, and these aspects of one manifested entirely as a reflection from the absolute source of all, involve and display the laws of all being, all life, and all nature. We have seen that abstract motion and abstract space were two aspects of the one absolute reality. Spirit and matter are their manufacturing poles or again the poles of the one absolute. So also are Light and Life. Therefore, when the "Spawn" or "curds" appear in the bosom of space in the dawn of a new solar system, and when by differentiation of the original substance the atoms emerge from the "curds" they carry as their inherent endowment, substance, moved by energy, manifesting intelligence and with all the latent potencies of Life and Consciousness. It may readily be conceived that such atoms will answer at once the needs of the metaphysician, the mathematician, physicist, chemist, and the philosopher.

Let us briefly recapitulate.

There is one reality lying back of all being, power unknown and unknowable. It is the causeless-cause, the rootless-root; all things are derived from it. Yet it never reveals or manifests itself per se. Its nearest symbol is absolute Space and Absolute Motion, a duality from the one Eternal Unity. The Abstract Motion represents Unconditioned Consciousness. The next innovation, the first awakening into life is the pure AKasa "the Spirit and Soul of Ether". Thus from the one a duality; and from that to a Trinity; the Father-Mother-Son, of the oldest

philosophies. Starting again with the Son, we find it to represent substance, energy and form or cosmic ideation. The AKasa, the spirit and soul of the Ether by manifestation becomes the Ether, and we have the first quaternary, "the plane on the surface of the circle," and the movement of creation begins. The potential becomes the Actual. Here lies the entire philosophy of the logos, that which ever was and ever will be, and yet is ever concealed: Yet manifesting by emanation through vehicles by concrete degrees. There is no such thing in the Universe, according to this philosophy, as dead matter. The plastic AKasa is the parent of all matter, the fountain of all energy, the vehicle of consciousness and the manifester of intelligence and life. It would be easy to show did time permit, that the more advanced scientists at the present time, like Prof Crookes, Prof. B. W. Richardson, Prof. Lodge and Mr. Keeley are slowly working their way precisely in the direction of these old concepts. Even our own Edison consciously or unconsciously uttered a fragment of this Archaic teaching, when he declared his belief in the innate intelligence of all atoms. If he had added that in their own degree and on their own planes the atoms are endowed with life and consciousness, he would have squared his circle of thought with the Archaic teaching, according to which there neither ever was or can be an such thing as dead or "brute" matter in the Kosmos.

Coming now to the conception of the Monad, our task is still more difficult. In several of his published addresses Prof. Crookes has come very near the Archaic teaching, so that with slight alterations and additions, his Protyle would answer to A'Kasa, the matrix or noumenon from which the so-called elements and atoms spring. If the elements have all one common basis whether we call that basis "Primordial ether," "AKasa" or "Protyle", may make very little difference; for each so-called elements must be a special form of differentiations from the common root of all.

In the adaption of his discovery to mechanical devices, Mr. Keeley defines what he calls a Neutral center. His problem consists in determining the relations of this Neutral Center to the "cord of the mass" on the principle that matter on different planes of density has different though definitely related rates of vibration; and Mr. Keeley's experiments in the presence of Prof. Leidy and other admittedly proved this. Now precisely what Mr. Keeley means by his Neutral Center is everywhere referred to in the old philosophy as a laya center. The meaning is the same as far as Mr. Keeley goes. The following is Mr. Keeley illustration of "Neutral Center".

We will imagine that, after an accumulation of a planet of any diameter say, 20,000 miles; more or less, for the size has nothing to do with the problem; there should be a displacement of all the material, with the exception of a crust 5000 miles thick, leaving an intervening void between this crust and the center of the size of an ordinary billiard ball. It would then require a force is great to move this small central mass as it would to move the shell of 5000 miles thickness.

Moreover this small central mass would carry the load of this crust forever, keeping equidistant and there could be no opposing power however great that could bring them together. The imagination staggers in contemplating the immense load which bears upon this point of center where weight ceases. This what we understand by a Neutral center.” And, adds the author of the Secret Doctrine, what Occultists understand by a “Laya-center”. One here gets a glimpse of the principle by which the sun and stars are swung in space. If now, we condense Keeley's supposed sphere, to an atom, the Monad represents the Neutral, or Laya-center. The Monad is thus the center or Soul of the atom.

There is a long intervening process of differentiation between the pure A'Kasa, the “first-born of space” and even the hypothetical Ether of Newton or of Modern Science, requiring millions of years as we count time. The compound chemical molecules, and even the atoms of Modern Science and the protyle of Prof. Crookes are later differentiations. These later forms occur in the Earth's atmosphere, though Protyle may fairly represent the prima Materia, at the beginning of their formation. “It may be correctly stated”, says the Author of the “Secret Doctrine” —that were Seibuitz and Spinoza's systems reconciled the essence and Spirit of Esoteric philosophy would be made to appear,” for as Seibutz conceives “an active energy forms the essence of substance”, and every Monad reflecting every other. This corresponds exactly with the Sloka already quoted from the Vedas, where the divine mind formed mirrors of the atoms of the world, and cast reflection from its own face on every atom. Every Monad thus becomes within its own sphere, “a living mirror of the Universe”, and not mere passive reflective agents, but “spontaneously, self-active.” They produce the image spontaneously as the soul does a dream.” Here then is a theory of the constitution of matter that hold together and has the merit of logical completeness. It therefore answers the requirements of a sound and exact science, and of a broad and comprehensive philosophy; and it will not down at the bidding of crumbling creeds, or sink back abashed at the sneering contempt of Modern materialism. It has to be examined, and will eventually force recognition and acceptance unless a wiser and better can be offered. Two points are of special interest just now. The first is, that the most advanced and intuitive scientists are already threading the outskirts of this philosophy from relatively independent reasoning and investigation. The second point is, that the oldest religion, and the most ancient science to which no modern problem in physics or astronomy was a stranger rest alike on this old philosophy, though I do not speak of their degenerate descendents known to the present day in the far East. The purely mechanical view of the Universe, toward which, even Modern Physiology  
# Secret Doctrine Vol. I p631 et seq  
is according to Prof. Huxley striving, and that undertakes to reduce all problems to considerations of Mass and motion leaving according to Prof. Wundt, the atoms themselves as “etter devoid of quality”, may have already accomplished wonder as a “working hypothesis” in the building bridges, and as applied to the

mechanical arts. When however we come to the foundation of Knowledge itself such theories already at war with themselves, break down altogether. Even the law of Avogadro, the cardinal principle of modern theoretical chemistry, is in irreconcilable conflict with the automechanical theory, when we come to the equation of mass and volume.

My object on the present occasion is however not to criticize modern science further than to show, by ready illustrations, its contract with the "Secret Doctrine" sufficiently to call attention to the latter. In the realm of applied science we can get on, probably for some time, to come, with our mechanical theory as a working hypothesis. But in the problems regarding life, and mind, the mechanical theory is already worse than a failure. It has become positively pernicious. No possible reconciliation can ever occur between such a theory and the religious element innate in every rational soul. If the mechanical theory fails science as a basis of knowledge of the real existence of things; and if its tendency is not to reconcile but to destroy all religious sentiment; and if in physiology, and psychology, it is both worthless and pernicious, there ought to be both place and time for a theory of the Universe that covers all these defects, reconciling men to both nature and Divinity no less than to himself.

Such a theory is found in the Secret Doctrine.

J. D. Buck