

*Kosmos is eternal noetic motion
unmanifested, the Great Breath
of the One Element*



Piercing the puffed-up bladder of materialism, which is as empty as it is dilated.

Whatsoever quits the *Laya* (homogenous) state, becomes active conscious life. Individual consciousness emanates from, and returns into Absolute consciousness, which is eternal MOTION.

— *Esoteric Axioms*

Whatever that be which thinks, which understands, which wills, which acts, it is something celestial and divine, and upon that account must necessarily be eternal.

— CICERO¹

First published in *Lucifer*, Vol. VI, No. 32, April 1890, pp. 89-100; also, in *The Theosophist*, Vol. XI, May 1890, pp. 414-24. Republished in *Blavatsky Collected Writings*, (KOSMIC MIND) XII pp. 133-50.²

Universal or Kosmic Mind (Atman) is eternal, perpetual motion. It needs no physico-chemical, or mechanical brain as an organ of transmission. Yet, physical science sees in motion simply a blind, unreasoning force or law; Occult Science, tracing motion to its origin, identifies it with the Universal Deity, and calls this eternal ceaseless motion or the “Great Breath.”

Edison's conception of matter was quoted in our March editorial article. The great American electrician is reported by Mr. G. Parsons Lathrop in *Harper's Magazine* as giving out his personal belief about the atoms being “possessed by a certain amount of intelligence,” and shown indulging in other reveries of this kind. For this flight of fancy the February *Review of Reviews* takes the inventor of the phonograph to task and critically remarks that “Edison is much given to dreaming,” his “scientific imagination” being constantly at work.

Would to goodness the men of science exercised their “scientific imagination” a little more and their dogmatic and cold negations a little less. Dreams differ. In that strange state of being which, as Byron has it, puts us in a position “with seal'd eyes to see,” one often perceives more real facts than when awake. Imagination is, again, one of the strongest elements in human nature, or in the words of Dugald Stewart,

¹ [*Tusculan Disputations* I, xxvii (66). See pp. 31-32 *fn.* in Vol. VII of the present Series, for Latin text of this passage, and additional note. — *Boris de Zirkoff*. See full text of Cicero's musings in our Down to Earth Series. — ED. PHIL.]

² Frontispiece by Karina Llergo Salto.

. . . it is the great spring of human activity, and the principal source of human improvement. . . . Destroy the faculty, and the condition of men will become as stationary as that of brutes.

It is the best guide of our blind senses, without which the latter could never lead us beyond matter and its illusions. The greatest discoveries of modern science are due to the imaginative faculty of the discoverers. But when has anything new been postulated, when a theory clashing with and contradicting a comfortably settled predecessor put forth, without orthodox science first sitting on it, and trying to crush it out of existence? Harvey was also regarded at first as a “dreamer” and a madman to boot. Finally, the whole of modern science is formed of “working hypotheses,” the fruits of “scientific imagination” as Mr. Tyndall felicitously called it.

Is it then, because consciousness in every universal atom and the possibility of a complete control over the cells and atoms of his body by man, have not been honoured so far with the *imprimatur* of the Popes of exact science, that the idea is to be dismissed as a dream? Occultism gives the same teaching. Occultism tells us that every atom, like the monad of Leibnitz, is a little universe in itself; and that every organ and cell in the human body is endowed with a brain of its own, with memory, therefore, experience and discriminative powers. The idea of Universal Life composed of individual atomic lives is one of the oldest teachings of esoteric philosophy, and the very modern hypothesis of modern science that of *crystalline life*, is the first ray from the ancient luminary of knowledge that has reached our scholars. If plants can be shown to have nerves and sensations and instinct (but another word for consciousness), why not allow the same in the cells of the human body? Science divides matter into organic and inorganic bodies, only because it rejects the idea of *absolute life* and a life-principle as an entity: otherwise it would be the first to see that absolute life cannot produce even a geometrical point, or an atom inorganic in its essence. But Occultism, you see, “teaches mysteries” they say; and mystery is *the negation of common sense*, just as again metaphysics is but a kind of poetry, according to Mr. Tyndall. There is no such thing for science as mystery; and therefore, as a Life-Principle is, and must remain for the intellects of our civilized races for ever a mystery *on physical lines* — they who deal in this question have to be of necessity either fools or knaves.

*Dixit.*¹ Nevertheless, we may repeat with a French preacher: “mystery is the fatality of science.”² Official science is surrounded on every side and hedged in by unapproachable, forever impenetrable mysteries. And why? Simply because physical science is self-doomed to a squirrel-like progress around a wheel of matter limited by our five senses. And though it is as confessedly ignorant of the formation of matter, as of the generation of a simple cell; though it is as powerless to explain what is this, that, or the other, it will yet dogmatize and insist on what life, matter and the rest are not. It comes to this: the words of Father Félix addressed fifty years ago to the French academicians have nearly become immortal as a truism. He said:

¹ [He said. *Cf. ipse dixit*, he himself said it.]

² [Père Félix de Notre-Dame, *Le Mystère et la Science*, Conférences, in: des Mousseaux *Les Hauts Phénomènes de la magie*, 1864, pp. xviii-xix]

Gentlemen, you throw into our teeth the reproach that we teach mysteries . . . But imagine whatever science you will; follow the magnificent sweep of its deductions . . . and when you arrive at its parent source you come face to face with the unknown!¹

Now to lay at rest once for all in the minds of Theosophists this vexed question, we intend to prove that modern science, owing to physiology, is itself on the eve of discovering that consciousness is universal — thus justifying “Edison’s dreams.” But before we do this, we mean also to show that though many a man of science is soaked through and through with such belief, very few are brave enough to openly admit it, as the late Dr. N.I. Pirogoff of St. Petersburg has done in his posthumous *Memoirs*.² Indeed that great surgeon and pathologist raised by their publication quite a howl of indignation among his colleagues. How then? the public asked; he, Dr. Pirogoff, whom we regarded as almost the embodiment of European learning, believing in the superstitions of crazy alchemists? He, who in the words of a contemporary:

. . . was the very incarnation of exact science and methods of thought; who had dissected hundreds and thousands of human organs, making himself as acquainted with all the mysteries of surgery and anatomy as we are with our familiar furniture; the savant for whom physiology had no secrets and who, above all men, was one to whom Voltaire might have ironically asked whether he had not found immortal soul between the bladder and the blind gut — the same Pirogoff is found after his death devoting whole chapters in his literary Will to the scientific demonstrations. . . .³

— Of what? Why, of the existence in every organism of a *distinct* “VITAL FORCE” independent of any physical or chemical process. Like Liebig he accepted the derided and tabooed homogeneity of nature — a Life-Principle — that persecuted and hapless teleology, or the science of the final causes of things, which is as philosophical as it is *unscientific*, if we have to believe imperial and royal academies. His unpardonable sin in the eyes of dogmatic modern science, however, was this: The great anatomist and surgeon had the “hardihood” to declare in his *Memoirs* that:

We have no cause to reject the possibility of the existence of organisms endowed with such properties that would make of them — *the direct embodiment of the universal mind* — a perfection inaccessible to our own (human) mind . . . Because, we have no right to maintain that man is the last expression of the divine creative thought.

¹ [*Le Mystère et la Science*, lecture of Father Félix of Notre Dame. Cf. des Mousseaux, *Les Hauts Phénomènes de la Magic*, 1864, pp. xiv-xix]

² [Reference is here to Dr. Nikolay Ivanovich Pirogov’s (1810–1881) posthumously published work entitled in Russian: *Voprosi zhizni. Dnevnik starago vracha, i.e., Life’s Problems. The Diary of an Old Physician*. A subtitle states: “Written exclusively for myself, but not without a secret thought that, perhaps, somebody else might also read it someday.” The subtitle gives also the dates: November 5th, 1879 – October 22nd, 1881, which are old style then current in Russia.

This *Diary* was published in 1887, and later translated into one or more foreign languages. The most recent edition is contained in his *Complete Works* in eight volumes published by the State Publishing House of Medical Literature, Moscow, 1962. The *Diary* may be found in the eighth volume of this edition. The original MS. of Dr. Pirogov’s *Diary* is in the holdings of the Military-Medical Museum in the Soviet Union. — *Boris de Zirkoff*.]

³ *Novoye Vremya*, 1887

Such are the chief features of the heresy of one, who ranked high among the men of exact science of this age. His *Memoirs* show plainly that not only he believed in Universal Deity, divine Ideation, or the Hermetic "Thought divine," and a Vital Principle, but taught all this, and tried to demonstrate it scientifically. Thus he argues that Universal Mind needs no physico-chemical, or mechanical brain as an organ of transmission. He even goes so far as to admit it in these suggestive words:

Our reason must accept *in all necessity* an infinite and eternal Mind which rules and governs the ocean of life . . . *Thought and creative ideation, in full agreement with the laws of unity and causation, manifest themselves plainly enough in universal life without the participation of brain-slush . . .* Directing the forces and elements toward the formation of organisms, this *organizing life-principle* becomes *self-sentient, self-conscious, racial or individual*. Substance, *ruled and directed by the life principle, is organized according to a general defined plan* into certain types . . .

He explains this belief by confessing that never, during his long life so full of study, observation, and experiments, could he:

. . . acquire the conviction, that our brain could be the only organ of thought in the whole universe; that everything in this world, save *that* organ, should be unconditioned and senseless, and that human thought alone should impart to the universe a meaning and a reasonable harmony in its integrity.

And he adds *à propos* of Moleschott's materialism:

Howsoever much fish and peas I may eat, never shall I consent to give away my *Ego* into durance vile of a product casually extracted by modern *alchemy* from the urine. If, in our conceptions of the Universe it be our fate to fall into illusions, then "illusion" has, at least, the advantage of being very consoling. For, it shows to me an intelligent Universe and the activity of Forces working in it harmoniously and intelligently; and that my "I" is not the product of chemical and histological elements but *an embodiment of a common universal Mind*. The latter, I sense and represent to myself as acting in free will and consciousness in accordance with the same laws which are traced for the guidance of my own mind, but only exempt from that restraint which trammels our human conscious individuality.

For, as remarks elsewhere this great and philosophic man of Science:

The limitless and the eternal, is not only a postulate of our mind and reason, but also a gigantic fact, in itself. What would become of our ethical or moral principle were not the everlasting and integral truth to serve it as a foundation!

The above selections translated *verbatim* from the confessions of one who was during his long life a star of the first magnitude in the fields of pathology and surgery, show him imbued and soaked through with the philosophy of a reasoned and scientific mysticism. In reading the *Memoirs* of that man of scientific fame, we feel proud of finding him accepting, almost wholesale, the fundamental doctrines and beliefs of Theosophy. With such an exceptionally scientific mind in the ranks of mystics, the idiotic grins, the cheap satires and flings at our great Philosophy by some European

and American “Freethinkers,” become almost a compliment. More than ever do they appear to us like the frightened discordant cry of the night owl hurrying to hide in its dark ruins before the light of the morning Sun.

The progress of physiology itself, as we have just said, is a sure warrant that the dawn of that day when a full recognition of a universally diffused mind will be an accomplished fact, is not far off. It is *only* a question of time.

For, notwithstanding the boast of physiology, that the aim of its researches is only the summing up of every vital function in order to bring them into a definite order by showing their mutual relations to, and connection with, the laws of physics and chemistry, hence, in their final form with mechanical laws — we fear there is a good deal of contradiction between the confessed object and the speculations of some of the best of our modern physiologists. While few of them would dare to return as openly as did Dr. Pirogoff to the “exploded superstition” of *vitalism* and the severely exiled life-principle, the *principium vitae* of Paracelsus — yet physiology stands sorely perplexed in the face of its ablest representatives before certain facts. Unfortunately for us, this age of ours is not conducive to the development of moral courage. The time for most to act on the noble idea of “*principia non homines*,”¹ has not yet come. And yet there are exceptions to the general rule, and physiology — whose destiny it is to become the handmaiden of Occult truths — has not let the latter remain without their witnesses. There are those who are already stoutly protesting against certain hitherto favourite propositions. For instance, some physiologists are already denying that it is the forces and substances of so-called “inanimate” nature, which are acting exclusively in living beings. For, as they will argue:

The fact that we reject the interference of other forces in living things, *depends entirely on the limitations of our senses*. We use, indeed, the same organs for our observations of both animate and inanimate nature; and these organs can receive manifestations of only a limited realm of motion. Vibrations passed along the fibres of our optic nerves to the brain reach our perceptions through our consciousness as sensations of light and colour; vibrations affecting our consciousness through our auditory organs strike us as sounds; all our feelings, through whichever of our senses, are due to nothing but motions.

Such are the teachings of physical Science, and such were in their roughest outlines those of Occultism, aeons and millenniums back. The difference, however, and most vital distinction between the two teachings, is this: official science sees in motion simply a blind, unreasoning force or law; Occultism, tracing motion to its origin, identifies it with the Universal Deity, and calls this eternal ceaseless motion — the “Great Breath.”²

Nevertheless, however limited the conception of Modern Science about the said Force, still it is suggestive enough to have forced the following remark from a great

¹ [principles, not men]

² Vide *The Secret Doctrine*, Vol. I, pp. 2, 3.

Scientist, the present professor of physiology at the University of Basel,¹ who speaks like an Occultist.

It would be folly in us to expect to be ever able to discover, with the assistance only of our external senses, in animate nature that something which we are unable to find in the inanimate.

And forthwith the lecturer adds that man being endowed “in addition to his physical senses with an *inner sense*,” a perception which gives him the possibility of observing the states and phenomena of his own consciousness, “he has to use *that* in dealing with animate nature” — a profession of faith verging suspiciously on the borders of Occultism. He denies, moreover, the assumption, that the states and phenomena of consciousness represent in substance the same manifestations of motion as in the external world, and bases his denial by the reminder that not all of such states and manifestations have necessarily a spatial extension. According to him that only is connected with our conception of space which has reached our consciousness through sight, touch, and the muscular sense, while all the other senses, all the *effects*, tendencies, as all the interminable series of representations, have no extension in space but only in time.

Thus he asks:

Where then is there room in this for a mechanical theory? Objectors might argue that this is so only in appearance, while in reality all these have a spatial extension. But such an argument would be entirely erroneous. Our sole reason for believing that objects perceived by the senses have such extension in the external world, rests on the idea that they seem to do so, as far as they can be watched and observed through the senses of sight and touch. With regard, however, to the realm of our *inner* senses even that supposed foundation loses its force and there is no ground for admitting it.

The winding up argument of the lecturer is most interesting to Theosophists. Says this physiologist of the modern school of Materialism:

Thus, a deeper and more direct acquaintance with *our inner nature* unveils to us a world *entirely unlike the world represented to us by our external senses*, and reveals the most heterogenous faculties, shows objects having nought to do with spatial extension, and phenomena absolutely disconnected with those that fall under mechanical laws.

Hitherto the opponents of vitalism and “life-principle,” as well as the followers of the mechanical theory of life, based their views on the supposed fact, that, as physiology was progressing forward, its students succeeded more and more in connecting its functions with the laws of *blind matter*. All those manifestations that used to be attributed to a “mystical life-force,” they said, may be brought now under physical and chemical laws. And they were, and still are loudly clamouring for the recognition of the fact that it is only a question of time when it will be triumphantly demonstrated that the whole vital process, in its grand totality, represents nothing more mysterious

¹ From a paper read by him some time ago at a public lecture.

than a very complicated phenomenon of motion, exclusively governed by the forces of inanimate nature.

But here we have a professor of physiology who asserts that the history of physiology proves, unfortunately for them, quite the contrary; and he pronounces these ominous words:

I maintain that the more our experiments and observations are exact and many-sided, the deeper we penetrate into facts, the more we try to fathom and speculate on the phenomena of life, the more we acquire the conviction, that even those phenomena that we had hoped to be already able to explain by physical and chemical laws, *are in reality unfathomable*. They are vastly more complicated, in fact; and as we stand at present, *they will not yield to any mechanical explanation*.

This is a terrible blow at the puffed-up bladder known as Materialism, which is as empty as it is dilated. A Judas in the camp of the apostles of negation — the “animalists”! But the Basel professor is no solitary exception, as we have just shown; and there are several physiologists who are of his way of thinking; indeed some of them going so far as to almost accept *free will* and *consciousness*, in the simplest monadic protoplasms!

One discovery after the other tends in this direction. The works of some German physiologists are especially interesting with regard to cases of consciousness and positive discrimination — one is almost inclined to say *thought* — in the *Amoebas*. Now the Amoebas or animalculae are, as all know, microscopical protoplasms — as the *Vampyrella Spirogyra* for instance, a most simple elementary cell, a protoplasmic drop, formless and almost structureless. And yet it shows in its behaviour something for which zoologists, if they do not call it mind and power of reasoning, will have to find some other qualifications, and coin a new term. For see what Cienkowsky says of it.¹ Speaking of this microscopical, bare, reddish cell, he describes the way in which it hunts for and finds among a number of other aquatic plants one called *Spirogyra*, rejecting every other food. Examining its peregrinations under a powerful microscope, he found it, when moved by hunger, first projecting its *pseudopodiae* (false feet) by the help of which it crawls. Then it commences moving about until among a great variety of plants it comes across a *Spirogyra*, after which it proceeds toward the cellulated portion of one of the cells of the latter, and placing itself on it, it bursts the tissue sucks the contents of one cell and then passes on to another, repeating the same process. This naturalist never saw it take any other food, and it never touched any of the numerous plants placed by Cienkowsky in its way. Mentioning another Amoeba — the *Colpadella Pugnax* — he says that he found it showing the same predilection for the *Chlamydomonas* on which it feeds exclusively; “having made a puncture in the body of the *Chlamydomonas* it sucks its chlorophyll and then goes away,” he writes, adding these significant words:

¹ L. Cienkowsky. See his work, *Beiträge zur Kenntnis der Monaden*. *Archiv für mikroskopische Anatomie*.

The way of acting of these monads during their search for and reception of food, is so amazing that one is almost inclined to see in them *consciously acting beings!*

Not less suggestive are the observations of Th. W. Engelmann¹ on the *Arcella*, another unicellular organism only a trifle more complex than the *Vampyrella*. He shows them in a drop of water under a microscope on a piece of glass, lying so to speak, on their backs, *i.e.*, on their convex side, so that the pseudopodiae, projected from the edge of the shell, find no hold in space and leave the Amoeba helpless. Under these circumstances the following curious fact is observed. Under the very edge of one of the sides of the protoplasm gas-bubbles begin immediately to form, which, making that side lighter, allow it to be raised, bringing at the same time the opposite side of the creature into contact with the glass, thus furnishing its *pseudo* or false feet means to get hold of the surface and thereby turning its body over to raise itself on all its *pseudopodiae*. After this, the Amoeba proceeds to suck back into itself the gas-bubbles and begins to move. If a like drop of water is placed on the lower extremity of the glass, then, following the law of gravity the Amoebae will find themselves at first at the lower end of the drop of water. Failing to find there a point of support, they proceed to generate large bubbles of gas, when, becoming lighter than the water, they are raised up to the surface of the drop.

In the words of Th. W. Engelmann:

If having reached the surface of the glass they find no more support for their feet than before, forthwith one sees the gas-globules diminishing on one side and increasing in size and number on the other, or both, until the creatures touch with the edge of their shell the surface of the glass, and are enabled to turn over. No sooner is this done than the gas-globules disappear and the *Arcellae* begin crawling. Detach them carefully by means of a fine needle from the surface of the glass and thus bring them down once more to the lower surface of the drop of water; and forthwith they will repeat the same process, varying its details according to necessity and devising new means to reach their desired aim. Try as much as you will to place them in uncomfortable positions, and they find means to extricate themselves from them, each time. by one device or the other; and no sooner have they succeeded than the gas bubbles disappear! It is impossible not to admit that such facts as these *point to the presence of some PSYCHIC process in the protoplasm.*

Among hundreds of accusations against Asiatic nations of degrading *superstitions*, based on “crass ignorance,” there exists no more serious denunciation than that which accuses and convicts them of personifying and *even deifying* the chief organs of, and in, the human body. Indeed, do not we hear these “benighted fools” of Hindus speaking of the small-pox as a goddess — thus personifying the microbes of the variolic virus? Do we not read about *Tāntrikas*, a sect of mystics, giving proper names to nerves, cells and arteries, connecting and identifying various parts of the body with deities, endowing functions and physiological processes with intelligence, and what

¹ *Beiträge zur Physiologie des Protoplasma*, in Dr. E.F.W. Pflüger's *Archiv für die gesammte Physiologie des Menschen und der Thiere*, Bonn, 1869, 2nd year, pp. 310-11, 387

not? The vertebrae, fibres, ganglia, the cord, *etc.*, of the spinal column; the heart, its four chambers, auricle and ventricle, valves and the rest; stomach, liver, lungs and spleen, everything has its special deific name, is believed *to act consciously* and to act under the potent will of the Yogi, whose head and heart are the seats of Brahmā and the various parts of whose body are all the pleasure grounds of this or another deity!

This is indeed *ignorance*. Especially when we think that the said organs, and the whole body of man are composed of cells, and these cells are now being recognized as individual organisms and — *quien sabe* — will come perhaps to be recognized some day as *an independent race of thinkers* inhabiting the globe, called man! It really looks like it. For was it not hitherto believed that all the phenomena of assimilation and sucking in of food by the intestinal canal, could be explained by the laws of diffusion and endosmosis? And now, alas, physiologists have come to learn that the action of the intestinal canal during the act of absorbing, is not identical with the action of the non-living membrane in the dialyser. It's now well demonstrated that

. . . this wall is covered with epithelium cells, each of which is an organism *per se*, a living being, and with very complex functions. We know further, that such a cell assimilates food — by means of active contractions of its protoplasmic body — in a manner as mysterious as that which we notice in the independent Amoeba and animalcules. We can observe on the intestinal epithelium of the cold-blooded animals how these cells project shoots — *pseudopodiae* — out of their contractive, bare, protoplasmic bodies — which *pseudopodiae*, or false feet, fish out of the food drops of fat, suck them into their protoplasm and send it further, toward the lymph-duct . . . The lymphatic cells issuing from the nests of the adipose tissue, and squeezing themselves through the epithelium cells up to the surface of the intestines, absorb therein the drops of fat and loaded with their prey, travel homeward to the lymphatic canals. So long as this active work of the cells remained unknown to us, the fact that while the globules of fat penetrated through the walls of the intestines into lymphatic channels, the smallest of pigmental grains introduced into the intestines did not do so, — remained unexplained. But today we know, that this faculty of selecting their special food — of assimilating the useful and rejecting the useless and the harmful — is common to all the unicellular organisms.¹

And the lecturer queries, why, if this *discrimination* in the selection of food exists in the simplest and most elementary of the cells, in the formless and structureless protoplasmic *drops* — why it should not exist also in the epithelium cells of our intestinal canal. Indeed, if the *Vampyrella* recognizes its much beloved *Spirogyra*, among hundreds of other plants as shown above, why should not the epithelium cell, *sense*, *choose*, and *select* its favourite drop of fat from a pigmental grain? But we will be told that “sensing, choosing, and selecting” pertain only to reasoning beings, at least to the *instinct* of more structural animals than is the protoplasmic cell outside or inside man. Agreed: but as we translate from the lecture of a learned physiologist and the works of other learned naturalists, we can only say that these learned gentlemen must know what they are talking about; though they are probably ignorant of the

¹ From the paper read by the Professor of physiology at the University of Basel, previously quoted.

fact that their *scientific* prose is but one degree removed from the *ignorant, superstitious*, but rather poetical “twaddle” of the Hindu Yogis and Tāntrikas.

Anyhow, our professor of physiology falls foul of the materialistic theories of diffusion and endosmosis. Armed with the facts of the evident discrimination and *a mind* in the cells, he demonstrates by numerous instances the fallacy of trying to explain certain physiological processes by mechanical theories; such for instance as the passing of sugar from the liver (where it is transformed into glucose) into the blood. Physiologists find great difficulty in explaining this process, and *regard it as an impossibility to bring it under the endosmotic laws*. In all probability the lymphatic cells play just as active a part during the absorption of alimentary substances dissolved in water, as the peptics do, a process well demonstrated by F. Hofmeister.¹ Generally speaking, poor convenient endosmose is dethroned and exiled from among the active functionaries of the human body as a useless sinecurist. It has lost its voice in the matter of glands and other agents of secretion, in the action of which the same epithelium cells have replaced it. The mysterious faculties of selection, of extracting from the blood one kind of substance and rejecting another, of transforming the former by means of decomposition and synthesis, of directing some of the products into passages which will throw them out of the body and redirecting others into the lymphatic and blood vessels — such is the work of the cells. Says the Basel physiologist:

It is evident that in all this there is not the slightest hint at diffusion or endosmose. It becomes entirely useless to try and explain these phenomena by chemical laws.

But perhaps physiology is luckier in some other department? Failing in the laws of alimentation, it may have found some consolation for its mechanical theories in the question of the activity of muscles and nerves, which it sought to explain by electric laws? Alas, save in a few fishes — in no other living organisms, least of all in the human body, could it find any possibility of pointing out electric currents as the chief ruling agency. Electrobiologists on the lines of pure dynamic electricity has egregiously failed. Ignorant of “Fohat” no electrical currents suffice to explain to it either muscular or nervous activity!

But there is such a thing as the physiology of external sensations. Here we are no longer on *terra incognita*, and all such phenomena have already found purely *physical* explanations. No doubt, there is the phenomenon of sight, the eye with its optical apparatus, its *camera obscura*. But the fact of the sameness of the reproduction of things in the eye, according to the same law of refraction as on the plate of a photographic machine, is *no vital phenomenon*. The same may be reproduced *on a dead eye*. The phenomenon of life consists *in the evolution and development of the eye itself*. How is this marvellous and complicated work produced? To this physiology replies, “We do not know”; for, toward the solution of this great problem . . .

Physiology has not yet made one single step. True, we can follow the sequence of the stages of the development and formation of the eye, but *why* it is so and *what* is the causal connection, we have absolutely no idea. The second vital

¹ *Untersuchungen über Resorption und Assimilation der Nährstoffe (Archiv für Experimentelle Pathologie und Pharmakologie, Vol. XIX, 1885)*

phenomenon of the eye is its accommodating activity. And here we are again face to face with the functions of nerves and muscles — our old insoluble riddles. The same may be said of all the organs of sense. The same also relates to other departments of physiology. We had hoped to explain the phenomena of the circulation of the blood by the laws of hydrostatics or hydrodynamics. Of course the blood moves in accordance with the hydrodynamical laws; but its relation to them remains utterly *passive*. As to the *active* functions of the heart and the muscles of its vessels, *no one, so far, has ever been able to explain them by physical laws.*

The underlined words in the concluding portion of the able Professor's lecture are worthy of an Occultist. Indeed, he seems to be repeating an aphorism from the "Elementary Instructions" of the esoteric physiology of *practical* Occultism:

*The riddle of life is found in the active functions of a living organism,¹ the real perception of which activity we can get only through self-observation, and not owing to our external senses; by observations on our will, so far as it penetrates our consciousness, thus revealing itself to our inner sense. Therefore, when the same phenomenon acts only on our external senses, we recognize it no longer. We see everything that takes place around and near the phenomenon of motion, but the essence of that phenomenon we do not see at all, because we lack for it a special organ of receptivity. We can accept that esse in a mere hypothetical way, and do so, in fact, when we speak of "active functions." Thus does every physiologist, for he cannot go on without such hypothesis; and this is a first experiment of a *psychological explanation* of all vital phenomena . . . And if it is demonstrated to us that we are unable with the help only of physics and chemistry to explain phenomena of life, what may we expect from other adjuncts of physiology, from the sciences of morphology, anatomy, and histology? I maintain that these can never help us to unriddle the problem of any of the mysterious phenomena of life. For, after we have succeeded with the help of scalpel and microscope in dividing the organisms into their most elementary compounds, and reached the simplest of cells, it is just here that we find ourselves face to face with the greatest problem of all. The simplest monad, a microscopical point of protoplasm, formless and structureless, exhibits yet all the essential vital functions, alimentation, growth, breeding, motion, feeling and sensuous perception, and even such functions which replace "consciousness" — the soul of the higher animals!*

The problem — for Materialism — is a terrible one, indeed! Shall our cells, and infinitesimal monads in nature, do for us that which the arguments of the greatest Pantheistic philosophers have hitherto failed to do? Let us hope so. And if they do, then the "superstitious and ignorant" Eastern Yogis, and even their exoteric followers, will find themselves vindicated. For we hear from the same physiologist that:

¹ *Life* and *activity* are but the two different names for the same idea, or, what is still more correct, they are two words with which the men of science connect no definite idea whatever. Nevertheless, and perhaps just for that, they are obliged to use them, for they contain the point of contact between the most difficult problems over which, in fact, the greatest thinkers of the materialistic school have ever tripped.

A large number of poisons are prevented by the epithelium *cells* from penetrating into lymphatic spaces, though we know that they are easily decomposed in the abdominal and intestinal juices. More than this. Physiology is aware that by injecting these poisons directly into the blood, they will separate from, and re-appear through the intestinal walls, and that in this process the *lymphatic cells* take a most active part.

If the reader turns to Webster's *Dictionary* he will find therein a curious explanation of the words "lymphatic" and "lymph." Etymologists think that the Latin word *lympa* is derived from the Greek *nymphē*, "a nymph or inferior Goddess," they say. "The Muses were sometimes called *nymphs* by the poets. Hence [according to Webster] all persons in a state of rapture, as seers, poets, madmen, *etc.*, were said to be caught by the nymphs (*νυμφόληπτοι*)." ¹

The Goddess of Moisture (the Greek and Latin *nymph* or *lymph*, then) is fabled in India as being born from the *pores* of one of the Gods, whether the Ocean God, Varuna, or a minor "River God" is left to the particular sect and fancy of the believers. But the main question is, that the ancient Greeks and Latins are thus admittedly known to have shared in the same "superstitions" as the Hindus. This superstition is shown in their maintaining to this day that every atom of matter in the four (or five) Elements is an emanation from an inferior God or Goddess, himself or herself an earlier emanation from a superior deity; and, moreover, that each of these atoms — being Brahmā, one of whose names is *Anu*, or atom — no sooner is it emanated than it *becomes endowed with consciousness*, each of its kind, and free will, acting within the limits of law. Now, he who knows that the *kosmic trimūrti* (trinity) composed of Brahmā, the Creator; Vishnu, the Preserver; and Śiva, the Destroyer, is a most magnificent and scientific symbol of the *material* Universe and its gradual evolution; and who finds a proof of this, in the etymology of the names of these deities,¹ *plus* the doctrines of *Gupta Vidyā*, or esoteric knowledge — knows also how to correctly understand this "superstition." The five fundamental titles of Vishnu — added to that of *Anu* (atom) common to all the trimūrtic personages — which are, *Bhūtātman*, one with the created or emanated materials of the world; *Pradhānātman*, "one with the senses"; *Paramātman*, "Supreme"; and *Ātman*, Kosmic Soul, or the Universal Mind — show sufficiently what the ancient Hindus meant by endowing with mind and consciousness every atom and giving it a distinct name of a God or a Goddess. Place their Pantheon, composed of 30 crores (or 300 millions) of deities within the macrocosm (the Universe), or inside the microcosm (man), and the number will not be found overrated, since they relate to the atoms, cells, and molecules of everything that is.

This, no doubt, is too poetical and abstruse for our generation, but it seems decidedly as scientific, if not more so, than the teachings derived from the latest discoveries of Physiology and Natural History.

¹ Brahmā comes from the root *brih*, "to expand," "to scatter"; *Vishnu* from the root *viś* or *vish* (phonetically), "to enter into," "to pervade" the universe of matter. As to Śiva — the patron of the Yogis, the etymology of his name would remain *incomprehensible* to the casual reader.