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MATTER AND SPIRIT

by

Srila Bhakti Raksak Sridhar Dev-Goswami Maharaja



There are three main elements to be traced within divinity: *jnana*, *bala*, and *kriya*. The eternal aspect of the absolute whole is divided in three ways: energy, consciousness, and ecstasy. Thinking, willing and feeling. *Sat*, *cit*, *ananda*. *Sat*, the potency for maintaining existence, is the potency of Baladeva (*bala*). *Cit*, the aspect of consciousness, is Vasudeva (*jnana*). And *ananda*, ecstatic feeling, is Radhika (*kriya*). *Jnana*, *bala*, *kriya* (knowledge, strength, feeling); *sat*, *cit*, *ananda* (eternity, cognition, bliss); *sandhini*, *samvit*, *hladini* (existence, realization, ecstasy): Baladeva, Krishna, Radharani. These are the three phases of *advaya-jana*, or the one whole. The one whole can be thought of in its primary, evolved stage in three ways: main consciousness, main energy, and main satisfaction. In three phases we are to conceive of that ultimate reality. It is there: *jnana*, *bala*, *kriya ca*. Thinking, feeling, willing. *Sat*, *cit*, *ananda*. *Satyam*, *sivam*, *sundaram* (eternity, auspiciousness, beauty). And these three principles are expressed through evolution and dissolution in the eternal and non-eternal.

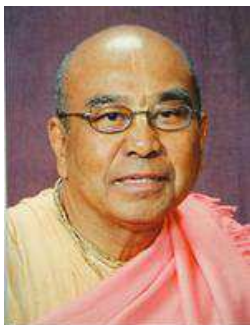
These aspects of theism have been dealt with in a very scientific way in the *Sri Krsna Samhita* of Bhaktivinoda Thakura. Thinking, feeling, willing – a living entity has three phases. And it is also the same with God and his potency. There is a subject existing first, and then his experiences. And experiences of the subtle most character come first and are given the most importance. And when the subject is coming to the more distant area to conceive of matter, that will be the farthest point from him. He will address everything by which he is surrounded with personal conceptions. A personal conception cannot but assert that matter is far off. The direct connection of consciousness is with the shadow, the reflection of the material into the conscious world. The soul can understand that only. If matter can exist independently, then also matter has a shadow in the conscious world and the soul is concerned with that shadow. In other words, there is the person and then the body. Just as the body is the after-effect of the conscious living agent, matter is the after-effect of spirit. Irrespective of all material consciousness, that which is in direct contact with soul is all personal. *Cidabhasa* is something like the mental substance we have within.

There are two kinds of persons, *ksara* and *aksara*: the pure liberated soul and the soul who is struggling in matter. When liberated and non-liberated persons are mixed within the world of material transactions, whether as moving or non-moving entities, or whatever their position might be, still they should be considered persons. Since everything is a unit of consciousness, everything has personal existence.

CRUMBLING PILLARS OF THEORY OF CHEMICAL EVOLUTION – PART 1 (of 2)

by

Srila Bhaktisvarupa Damodara Maharaja (T. D. Singh, Ph.D.)



The theory of chemical evolution rests upon three assumptions: (1) The hypothetical primitive atmosphere must have been either reducing or neutral. This means that there was no free oxygen in the atmosphere in the earth's distant past. (2) Simple molecules like amino acids, purines, pyrimidines, and sugars were formed within this atmosphere under the action of ultraviolet radiation, electrical discharges, radioactivity, thermal energy, and so on. (3) In the course of time these molecules gave rise to protoproteins, protonucleic acids, and other protocellular components, which in turn gave rise to the so called protocells and finally to the living cell.

We can briefly analyze these assumptions by purely scientific reasoning and argument. It is a foregone conclusion of many molecular evolutionists that the primitive atmosphere consisted of carbon (C) in the form of hydrocarbon such as methane (CH_4), nitrogen (N) in the form of ammonia (NH_3), oxygen (O) in the form of water (H_2O), and sulfur (S) in the form of hydrogen sulfide (H_2S). This was first proposed by Oparin,¹ the Russian evolutionist, and Urey,² the American physicist.



Miller's Experiments

Miller's experiment gave the molecular evolutionists great hope and encouragement for their idea of the chemical origin of life. They claim that such steps are the ones that will finally lead to life. However, the author would show that, in the light of many experimental findings, such a claim is far from truth. It is just the wishful thinking of the chemical evolutionists.

The idea of the primitive reducing atmosphere has received strong and serious criticisms from scientists of various disciplines. Their arguments suggest overwhelming drawbacks in the conjecture. Available data from geology, geophysics and geochemistry argue strongly against this idea. Abelson,⁴ for example, argues that there is no evidence for the reducing atmosphere, and that ammonia would have quickly disappeared because the effective threshold for degradation by ultraviolet radiation is $2,250\text{\AA}$. He suggests that a quantity of ammonia equivalent to the present atmo-

spheric nitrogen would be destroyed in approximately 30,000 years.⁵

Abelson has also suggested that if the primitive atmosphere contained large amounts of methane gas, geologic evidence for it should be available. Laboratory experiments show that irradiating a highly reducing atmosphere produces hydrophobic organic molecules that are absorbed by sedimentary clays. This suggests that the earliest rocks should have contained an unusually large proportion of carbon or organic chemicals. However, this is not the case.

From observations based on the stratigraphical record, Davidson concludes that there is no evidence that a primeval reducing atmosphere might have persisted during much of Precambrian time.⁶ Brinkmann shows from theoretical calculation that dissociation of water vapor by ultraviolet light must have generated enough oxygen very early in the history of the earth to create an oxidizing atmosphere.⁷

Besides these, there have been huge numbers of other arguments and findings against primitive reducing atmosphere.⁸ Recently, many geoscientists have also expressed great doubt about it.⁹ In light of these arguments, the idea of a primeval reducing atmosphere does not seem tenable. In his current review, Leslie Orgel has even stated, "The relevance of all of this early work to the origin of life has been questioned because it now seems very unlikely that the Earth's atmosphere was ever as strongly reducing as Miller and Urey assumed."¹⁰ It is interesting that Miller himself, one of the main pioneers of pre-biotic chemistry, has recently stated, "We really don't know what the Earth was like three or four billion years ago. So there are all sorts of theories and speculations. The major uncertainty concerns what the atmosphere was like. This is a major area of dispute."¹¹ Of course, this does not mean the end of speculation on the chemical origin of life. Although the reducing atmosphere has been by far the most popular, many other hypothetical primitive atmospheres have been proposed.¹²

Thus, the gaseous mixture in Miller's experiment can be replaced by a mixture of carbon monoxide, nitrogen, hydrogen, and water vapor, giving comparable results and thus indicating that the carbon need not be in the form of hydrocarbon gas.¹³ The molecular evolutionist Matthews¹⁴ has advanced another theory about the possible formation of protein from hydrocyanic acid (HCN) gas. Electrical discharge experiments in a mixture of nitrogen, carbon monoxide, and hydrogen give HCN as one of the principal products.¹⁵ HCN is an even more promising candidate as far as the formation of proteins, purines, pyrimidines, and other molecules of biological importance is concerned.

HCN is a critical reagent. Its hydrolysis provides ammonia and its polymerization, even at -20 and -78°C in HCN-rich brines,¹⁶ gener-

ates molecules such as glycine, adenine and guanine. Thus ammonia could be expected to have been produced in the oceans by HCN hydrolysis, provided there was a continuous source of HCN, which however remains uncertain.



Another alternative proposal is that instead of direct earth based syntheses, organic compounds needed for the origin of life may have come from extraterrestrial sources, such as interplanetary dust particles, comets, asteroids and meteorites.¹⁷ Whether this extraterrestrial organic material

was efficiently delivered intact to the Earth, however, remains an uncertain issue.¹⁸ Besides, deep sea vents are also being added to the list of plausible sources for the origin of life.¹⁹

One can arrive at many alternative theories about the unknown past, and these in turn can be criticized. (For example, the two atmospheres mentioned above would not endure if the dissociation of water vapor generated substantial amounts of free oxygen.) But, where is the truth? We can only conclude that conditions (1) and (2) are shaky and speculative assumptions at best.

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provide important clues in the search for minerals, including gold. Those found in the Rand come from levels 3-4 kilometers down, which are securely dated at 2.7 to 2.8 billion years old. The researchers' theory has been lent additional weight by evidence from the Western Australian Pilbara region for the presence of sulphates in rocks up to 3.5 billion years old. These, too, could not have formed without an oxygen-rich atmosphere. Refer: Phillips, G.N., Law, J.D.M. and Myers, R.E. "Is the redox state of the Archean atmosphere constrained?" *Society of Economic Geologists, Newsletter*, 2001, 47, p. 1 & pp. 9-18.

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...to be continued in next issue

CONSIDER A FLOWER – PART 2 (of 2)

by

Sripad Bhakti Madhava Puri Maharaja, Ph.D.



In his “Encyclopedia Logic”¹ Hegel writes:

“In thus characterizing the universal, we become aware of its antithesis to something else. This something else is the merely immediate, outward, and individual, as opposed to the mediate, inward, and universal. The universal does not exist externally to the outward

eye as a universal. The kind (genus) as kind cannot be perceived: the laws of the celestial motions are not written on the sky. The universal is neither seen nor heard, its existence is only for the mind.”

Further Hegel writes²:

“If genera and forces are the inner side of Nature, the universal, in the face of which the outer and individual is only transient, then still a third stage is demanded, namely, the inner side of the inner side, and this, according to what has been said, would be the unity of the universal and the particular.”

The flower as an existing individual is made up of determinate particulars, and this manifold of determinate differences must be united with the universal, that is, its law or genus, in order for the individual to be manifest as that unity. If we call the universal the “inner side” of the flower then there must be something further inside or within this inner side that connects it to particularity. But this inside of the inside is just the negation of the inside, or the outside – the individuality of the flower a such.

What is lacking in universality is determinateness. But as opposed to particularity the universal is just another particular. Likewise, as isolated and independent, particularity is just universality. What seems separate and distinct are thus in truth the unity (or identity in difference) of the universal and particular. Thus Hegel continues²,

“The particular is supposed to be separate from the universal, but this very separateness, this independence, makes it a universal, and so what is present is only the unity of the universal and the particular.”

The relation of universal and particular may be studied even more closely by the analysis given in Hegel’s Logic³ on the finite and infinite. This is considered in more detail in another article, “Finite, Spurious Infinite, True Infinite”⁴.

Let us summarize those results. When the determinateness of something finite is determined as other or different from that which it determines, it becomes another finite, which, as having its limit identical to itself, is related to another, etc. ad infinitum, giving rise to the spurious infinite. This is the result of considering determinateness as merely the other of what it determines.

When the identity of the other with its other (the original being) is grasped then the other as such is negated. This negation of the negation is the true infinite. As the negation of the other it is the being-for-self of the infinite relation. What is the relation of the finite to the infinite? Finite immediate being, the experienced individual or existent thing is finite because it has an end - a qualitative limit as well as an extensional and temporal limit. It is essentially a vanishing being, or momentary being. This vanishing appearance of the finite indicates that it is fleeting part of a larger movement or belongs to a greater development, of which the finite is just the momentary aspect.

The finite is not an independent reality apart from that whole in which it participates. Even in a mechanical sense - for example, a watch - the gear is not the truth of the watch; it is only a part of the whole that is the watch. To think that the gear is the whole truth is to miss the watch entirely, and its significance for telling time. It is not enough to determine merely what something is. Reflective thought, or empirical thought, is concerned only in determining what something is (the in-itself), but fails to give recognition to the purpose or goal for which the thing exists (being-for-another or being-for-itself). An acid has no meaning as being “acidic” in-itself. Unless its relation to an alkaline element is known, there is no reason to call it an acid. Furthermore, acidity and alkalinity are related to a third thing, viz. the neutral salt that they form, and in this neutral product the original acidity and alkalinity are completely superceded or sublated.

Similarly, in a living organism, the atomic or molecular inorganic material of which it is composed, is superceded in the biochemical functions of the organism, just as the biochemical functions are likewise sublated in the higher goal-oriented unity or self-maintenance, self-preservation, and self-determined activity (spontaneous movement) of the living organism. All of these features are related to the being-for-self that atomistic thinking considers only in the abstract sense that is without the intrinsic difference that would make it a concrete or actual unity.

In his Phenomenology⁵ Hegel develops the Infinite before the category of Life. The reason is that Life is a form of concrete being-for-self, which (as shown in the previously mentioned

article on the Infinite) follows from the concept of the true Infinite. The important thing is to try to study that development in whatever way you are able, because several fundamental principles are involved that enable us to understand the unity of the concrete universal with its particularity, as well as the important concept of being-for-self in its concrete significance as containing its negated difference within itself.

Because modern science as well as modern philosophy, has failed to understand these simple and fundamental categories of being, the relatively recent science of biology (developed within the past century) will continue to be hampered by using the limited categories that belong to atomic and molecular physics. The limited category of being-for-other that characterizes the chemical sphere fails to apply to biological systems because it does not reach the infinite being-for-self that is needed to comprehend the teleological nature of living organisms.



Theory of Evolution

From these considerations, the theory of evolution, under which biology is presently organized, can not serve as the rational unifying principle of the biological sphere. This is because neo-Darwinian evolution is based upon a mechanical-chemical theory of life. But the molecular constituents of an organism represent only the determinate particularity of the organism (we may call them its properties). This means it is merely an abstract sphere, an abstraction from the totality of the organism as a whole or unity of universal, particular and individual.

The unity or individuality of an organism is not comprehended by an aggregate sum of its parts (biomolecules, genes, genome, etc). The organism functions as a whole. The parts, or more properly members, serve to sustain the whole, as much as the whole sustains the members. Furthermore, the universal, what we may call the genus (or species) is an additional vital (in the sense of dynamic) essence upon which the organism thrives. Here, reproduction according to kind is maintained as an irrevocable part of the life of an organism, which Hegel identifies as more of a genus-process than simply a genus. All life must involve this universality or genus-process and therefore species produce according to their own kind only.

While evolution or change within a species is validated, for which Gregor Mendel provided the scientific explanation, Darwinian evolution, which claims that species evolve from one another, is not ontologically or philosophically supported. Neither has

empirical evidence nor empirical explanation for Darwinian evolution ever been forthcoming. This is for good reason: it is not found in Nature because it does not accord with the idea of organism.

The concept of adaption or survival of the fittest in a changing environment, as understood by modern Darwinists, is not a process of creating new organs to accommodate environmental alterations. That is not the meaning of adaption. Adaption simply refers to adjustments due to the inherent flexible resources of the original organism that enable it to conform to changes in its environment. Therefore, any adaptive ability must already be inherent in the organism - it is not a pure novel creation.

For these reasons origin of species and the unity of the biological sphere is not comprehended by evolution. Philosophy has repeatedly criticized the theory of evolution for its flawed reasoning, but such criticisms have gone unheeded by most biologists. Popper was one of the more recent outspoken critics, even though he had to modify his views under pressure from the biological community. Aristotle, Kant and Hegel have contributed much to the philosophical understanding of the living organism. As Hegel shows, not only life, but the next higher categories of cognition, consciousness, etc. require the comprehension of being-for-self. These higher categories of being can not be comprehended at the level of molecular or electrical activity.

It is encouraging to see research work like that of James Kreines, previously at Yale, who is currently studying the importance of Hegel's contribution to the establishment of a more rational foundation for science. In his paper on "Hegel's Critique of Pure Mechanism"⁶ he outlines the difference between the "descriptive" power of mechanistic science versus the "explanatory" power of the teleological perspective in science.

This is the type of study that is needed to bring science into alignment with philosophy that may mark the beginning of a scientific revolution that will bring about a modern unified science of matter, mind and spirit.

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