Universal Consciousness and Evolution in Sri Aurobindo's Integral Cosmology

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Abstract

The recent revival of metaphysical frameworks in Western consciousness studies, such as panpsychism, cosmopsychism and its idealistic and monistic versions, is viewed from the standpoint of an extended and more consistent emergentist evolutionary cosmology in the light of Sri Aurobindo. This integral cosmology, whose conceptual foundations were summarized in a previous paper (Masi, 2021), will be further outlined and thus furnish a more coherent metaphysical framework, inside which several of the issues and shortcomings that vitiated the previous ontologies can find their natural accommodation. We will also point out how this this ontology is well in line with modern scientific findings and, in some respects, even anticipated them.

Keywords: teleology, universal consciousness, evolution, metaphysics, philosophy of mind, mind-body problem, cosmopsychism, panpsychism, mysticism, Sri Aurobindo

Contents

Introduction

The impressive expansion and progress of neuroscience and the development of new technologies for functional brain imaging opened to scientists and philosophers a completely new domain of investigation into the workings of the human mind. Especially during the last three decades, many findings uncovered the functional activity of the brain and we expect that even more groundbreaking discoveries are yet to come.

However, there is now a growing awareness that questions of a more philosophical nature won't be answered by a mere functional investigation. In particular the questions on the nature of phenomenal experience and what appears to be the emergence of consciousness in the evolutionary natural processes not only remain unanswered but there has been no tangible progress towards their resolution. The belief that the progress of modern neurosciences would shed light on David Chalmer's notorious 'hard problem of consciousness' (Chalmers, 2015) has turned out to be much too optimistic. Consciousness in its subjective and experiential dimension stands out as a phenomenon alien to any attempt at scientific determination. Inside a naturalistic framework, the origin and ontology of the phenomenal subjective conscious experience remains an irreducible and intractable entity.

Although most scientists and philosophers still maintain a stance of reductive material monism, there now exist a growing academic community that seriously consider alternative ideas and posits consciousness as a fundamental and irreducible ontological primitive. To a lesser degree but, perhaps, as a non-negligible factor, some were also influenced by a skepticism towards neo-Darwinism as the ultimate paradigm for a materialistic non-teleological account of evolution. In fact, there is a growing dissatisfaction towards physicalism as the ultimate word in the studies of consciousness and evolution which is felt throughout different academic lines of thought.

This has led to a rediscovery of some Western and Eastern teachings on the nature of consciousness. A clear symptom which shows how western metaphysics is reconsidering its own roots is the revival of old metaphysical worldviews like philosophical idealism, panentheism, panpsychism and further developments or modifications of them. In particular, philosophical idealism and panpsychism (for a review see (Chalmers, 2019) or (Skrbina, 2017)), I. Shani's 'cosmopsychism' (Shani, 2015) and B. Kastrup's 'cosmoidealism'[1] (Kastrup, 2018), just to mention the currently most considered works, developed new metaphysical cosmologies and strived to make sense of consciousness and mind in the light of modern neuroscientific findings.

We will first examine these with a critical review which highlights their strengths but also their shortcomings and which will motivate us then to look beyond their monistic or dualistic approach, expanding it to Aurobindo's integral cosmology.

Special attention will be given to what we termed as an 'integral teleology'. After a short summary of Aurobindo's ontology and its spiritual emergentism, a coherent frame that embraces and enlarges the physical Darwinian evolution to an evolutionary metaphysics will be outlined. Modern theories of consciousness and evolution will thereby be reframed from a more integral perspective that resolves naturally the seeming contradictions and inconsistencies which have otherwise remained unsolved and plagued these metaphysical models.

I. The comeback of the conscious Universe

1. From panpsychism to cosmopsychism and beyond

Philosophers like Leibniz, Spinoza, Whitehead or William James, expressed a panpsychist view in one form or another, namely, that everything is fundamentally a form of consciousness or mind. In this view, raw, inert matter - that is, a stone, a molecule, an atom, or an elementary particle - also has some primitive form of primordial conscious experience. 'Micropsychism', conjectures that even an elementary particle, such as an electron, has - or rather *is* - an elementary form of consciousness which presumably, whenever it interacts with other particles, has an inner experience or some form of primitive awareness. Its aggregation with other particles, like nuclei made of protons and neutrons, into atoms and

[1] The term 'cosmoidealism' we borrowed from D. Broderick who cites D. Chalmer in (Broderick, 2018).

molecules first, then by a combination of cells into living organisms, formed, by successive and cumulative stages of evolution, increasingly complex and conscious lifeforms. Panpsychism conceives, therefore, of the emergence of consciousness as a cumulative aggregation of elementary conscious mental units, sort of 'psychic atoms,' leading to an increasingly self-aware entity through a bottom-up process. 'Constitutive panpsychism' posits that there is some complexity law which, by complicated mutual dynamical interactions and interrelations among the single units, allows for a growth of consciousness that is somehow proportional to the number of units and the complexity of the organisms they constitute.

Though panpsychism is still a reductionist understanding of consciousness, it is nonetheless a first step away from the purely materialistic perspective insofar that it reverts the paradigm: Not matter but mind and/or consciousness must be posited as fundamental. The hard problem of consciousness is so avoided from the outset.

Over the last decades, this view has been revitalized as a possible alternative to orthodox physicalism. Most notably, panpsychism has been reconsidered in its different forms by modern leading philosophers in the field, like Thomas Nagel (Nagel, 1979), Galen Strawson (Strawson, 2006), David Chalmers (Chalmers, 2015), and Philip Goff (Goff, 2017).

However, panpsychism does not come without drawbacks. The most notorious issue is illustrated by the *'*combination problem': How does a combination of a myriad of fundamental experiential entities yield the familiar human conscious experience? There is no apparent reason to believe that combining low-level forms of minimal experiences should result in a unified high-level form of phenomenal experience and cognition. Even if we assume that only some specific types of combinations lead to high-level forms of consciousness this still does not explain why a particular functional combination-however complicated, special, and unique- results in a conscious subject with a mind that are, in all respects, very different from the sum of the elementary experiences from which they are supposed to arise. Or, to put it in the terms of the so-called *'*subject combination problem': How do several micro-subjects combine to yield a single macro-subject?

Some philosophers, moved by this unconvincing aspect of panpsychism, but still determined to not fall back to the physicalist standpoint, considered the opposite viewpoint of micropsychism: that of 'cosmopsychism', a term and model originally introduced by Itay Shani (Shani, 2015). It replaces a bottom-up with a top-down approach and conceives of the whole cosmos as the ultimate conscious being. From this perspective, the universe is a sort of cosmic Mind, i.e., a unitary conscious entity that is reminiscent of the same concept appearing in several Eastern traditions. Assuming a universal Consciousness as the ontological primitive solves the combination problem because it is the high-level consciousness, rather than the low-level subject, which is the starting point. For example, the human mind, its mentation, and our subjective experiences are a fragment, a localized spot of a much larger cosmic consciousness and cosmic Mind. If one extends subjectivity not only to matter but also to all space and time and sees the universe as a 'super-Subject', then the panpsychist's explanatory gap incarnated in the combination problem resolves naturally in a top-down decombination that does the job, namely, a process of self-individualization of this universal consciousness in space and time by a fragmentation in itself.

This, however, immediately raises the opposite question of the 'decombination problem' (or 'decomposition problem' or 'subject summing problem'): How do these segments of universal consciousness that we experience as a subjective individuality, having private experiences and individual mental contents, come into existence? After all, we cannot (at least not consciously) read each other's minds.

An interesting proposal on how the decomposition problem can be solved comes from Kastrup's cosmoidealism. (Kastrup, 2018) In this theoretical framework everything is mental, and the inanimate world is an extrinsic expression of the thought of the cosmic Mind, which Kastrup called 'Mind at Large' (borrowing the term from Aldous Huxley's idea of the brain as a 'reducing valve' of a Mind at Large (Huxley, 1954)). In this universal idealistic model, all living organisms are 'dissociated alters' of this cosmic consciousness. He was also largely inspired by Schopenhauer and his vision of the world as Will (Kastrup, 2020).

Let us look at this ontology a bit more closely:

Kastrup identifies every experience, be it cosmic or individual, as a 'pattern of self-excitation of cosmic consciousness' analogous to modern quantum field theory, which describes every elementary

particle as a harmonic oscillator localized in the space and time of a fundamental quantum field. In this view, every experience corresponds to a particular pattern of self-excitation of this cosmic consciousness.

Cosmoidealism posits 'discrete centers of self-awareness', or the 'alters', that arise due to some dissociative process that psychiatrists know as 'dissociative identity disorder'. A person suffering from dissociative identity disorder exhibits multiple personalities as though the same body contains (or is possessed by) several different subjects with different minds and personalities. Kastrup submits that these different subjects–that is, different alters–are not fictional personalities created by a brain disorder but real dissociated centers of awareness caused by the same dissociation process in cosmic consciousness which leads to the formation of our subjective individuality, the 'I-ness' we experience as sentient beings.

Furthermore, Kastrup identifies metabolic systems as the 'dissociative boundary' inside which we experience our separate phenomenal consciousness. Metabolic processes in closed biological systems, such as a living cell or a multicellular organism like a plant, animal, or human being, delimit the dissociative boundary between our individualized phenomenal experience and the cosmos from which it has dissociated. In this view, all the matter and the complex structures we observe in the universe are thoughts of Mind at Large. Also, all the physical phenomena we perceive, such as light, electromagnetic, and nuclear forces acting in space and time are thoughts of this cosmic Mind impinging on our sensorial organs and bodies, the alters' dissociative boundary.

Finally, in this cosmoidealist view, the cosmic consciousness is not really a self-aware superconscious being capable of a higher cognitive process; rather, it is a reactive and instinctive Being which does not really have a goal or preconceive a cosmic evolutionary project. It is a sort of borderline between a pantheistic and panentheistic conception of a Spinozian God, which, as in Schopenhauer's world conception, simply is and acts only by a blind Will which is not self-reflective and, by being and becoming in an undirected evolutionary process, grows in its self-awareness. This also answers the question about the existence of suffering in this seemingly unconscious cosmic play. Mind at Large has no moral or ethical values; it is just an instinctive Being which, through material processes, slowly becomes self-aware but can't do anything other than express and follow its own automatic instinctually.

2. Critical assessment

If we have indulged particularly in these modern forms of idealistic and spiritualistic theories, excluding other proposals coming from different fields of the modern philosophy of mind[2], this is because in some respects they come closest to the integral cosmology we are going to outline. In fact, cosmopsychism and cosmoidealism are in line with the mystic tradition of Eastern philosophies.

Nonetheless, we believe that these are still too-simplistic models of reality and need to be extended to an integral cosmology.

For example, we contend that monistic idealism imprisons itself in a one-dimensional theoretical framework that tries to capture a multidimensional reality. The most evident stumbling block is that of a semantic, or at least linguistic conflation or insufficient distinction between mind and consciousness. We consider this a serious fallacy that is unfortunately most pervasive in Western philosophy of mind and hampers deeper insights. In these regards, the exclusively idealist approach is questionable. The fact that we perceive everything physical through the mind in terms of mental phenomena on our 'screen of perceptions' raises the question of whether this authorizes us to conclude that then everything must be mental? If I see the world in only one color, this does not imply that all of Nature can be reduced to that color.

Moreover, while Kastrup's approach solves the combination and decombination problem, it raises the question of how Mind at Large could form the first metabolic system from raw insentient matter in the first place? According to this model, before the formation of the first metabolic unit, namely, a biological cell, there was no mind or consciousness at work on a spatially and temporally localized scale. There was only a blind instinctive Mind at Large without dissociated discrete centers of self-awareness. How can mere instinctive impulses create such an amazingly complex, efficient and self-reproducing

[2] Such as Steve Taylor's panspiritism (Taylor, 2020) or research inspired by the Asian tradition, especially the Advaita-Vedanta; see, for example, Miri Albahari's take on 'perennial idealism'. (Albahari, 2019)

thing like a living cell? A cell is a much more complex object than the most sophisticated supercomputer, airplane, rocket or spaceship. But those complex machines don't self-assemble by mere instincts, let alone reproduce. And it is implausible that this could happen even after 13.8 billion years of instincts. This issue returns us back to yet another form of combination problem: one can't see why and how combining infinitely many mechanistic instincts, no matter how much time passes, should supposedly lead to anything creative and cognitively more developed other than yet another blind 'super-instinct'. It is hard to believe that a blind cosmic will without any form of intelligence could master an evolutionary process with such a fantastic complexity and leading to an incredible variety of life-forms.

Suppose we don't embrace a panpsychist view which could make plausible a bottom-up 'abiogenesis' (the theory of the origin of primordial life from non-living matter) and instead conceive of some consciousness locally at work meddling with macromolecules in a primordial soup and leading to the appearance of the first biological cell. What then led to life's appearance? The only alternative the author can think of is to fall back to the purely naturalistic perspective–that is, a mechanistic neo-Darwinian conception of evolution of material micro- and macroscopic processes driven by genetic and natural random selection principles. That would be a rather disappointing outcome for a theory that was supposed to get rid of a physicalist account. Because then, one wonders, why should we posit a universal consciousness or cosmic mind in the first place? These are theories that fixed their attention too much on resolving the hard problem of consciousness but lost sight of the evolutionary emergentist dimension of life and consciousness–something which is naturally harmonized in an integral cosmology.

What follows is an integration of the above metaphysical frameworks inside the metaphysics of the Indian mystic, poet and nationalist Aurobindo Ghose (1872-1950).

II. Integral Teleology

1. The integral cosmology in a nutshell

It is impossible to do justice to the subject of integral cosmology with a brief summary. For an introduction from the perspective of the modern Western philosophy of mind see the author's paper (Masi, 2021), eventually augmented by Aurobindo's 'topography of consciousness' (Cornelissen, 2018). For a non-academic introduction see also (Satprem, 1964) and (Aurobindo, 1993). For a more in-depth exploration of Aurobindo's cosmology and spiritual practice the reader will have to resort to the vast variety of his original writings (especially (Aurobindo, 1914-19), (Aurobindo, 1914-21), (Aurobindo, 1927-50) and (Aurobindo, 1950).)

However, in order to keep this paper self-contained, let us outline the main traits of Aurobindo's evolutionary ontology relevant to the present context. It is a cosmology and cosmogony resulting from a mystic experience as perceived from heightened states of consciousness. Once established in a unitary consciousness, the 'supramental gnosis', Aurobindo reported what the world disclosed him when seen from these super-cognitive heights.

One of the central themes emerging from this vision is an ever-present progressive spiritual emergentist paradigm. Contrary to the common scientific Darwinian concepts of evolution, which conceive only of an undirected cumulative speciation determined by natural selection and random mutations, and where any notion of 'progress' is absent, in Aurobindo's integral teleology one admits of a progressive emergence of the Spirit in matter. This Spirit will transform and mold life to the image of an original spiritual perfection, though still invisible. Man is a transitional being that is going to become a gnostic being. According to Aurobindo, since 'all life is yoga', by a conscious effort–that is, by practicing consciously a discipline of mental, emotional and spiritual self-perfection, like yoga–we will ascend the ladder of self-awareness in matter.

But the universe is not just about matter and spirit. An organism is not only body and soul and not only a dissociated alter in a Mind at Large, just as it is not only a body without spirit and soul, as the physicalist contends. Aurobindo invites us to refrain from these too coarse-grained universal models. His cosmology is neither mono-dimensional, as that of the material or mental monist, nor is it the dualist's bi-dimensionality; rather, it is multidimensional. There is not only matter and/or mind, but a whole series of cosmic planes beyond the universal physical or the universal mental (Mind at Large, cosmic Mind, cosmic consciousness, etc.) It is a cosmology with a complex hierarchical structure of

existence and states of consciousness Aurobindo termed as the ‘planes and parts of being’ and subdivided in a ‘lower hemisphere’ of ignorance and a ‘higher hemisphere’ of knowledge.

This lower hemisphere is constituted by the mental, vital and physical universal planes–that is, a cosmic mind, a cosmic life and the physical universe. In its individuated form the ‘parts’ of the being reflect the universal ‘planes’ of existence.

There are different subtle ‘bodies’ or ‘sheets’ beyond the physical body, namely a ‘vital’ body (the life-part of our being ruled by a life-force and which on the psychological level expresses in us as emotions, passions, desires, etc.) and the mental body (mind).[3] In the lower hemisphere the Divine is immanent and directly active and still contains in its bosom the principle of unity in diversity. But it is the spatial and temporal dynamic manifestation of a divine entity in its involuted form where the process of fragmentation has led also to a self-forgetfulness of the original Spirit.

At the bottom of this lower hemisphere, one finds also the ‘subconscient’, ‘incontinent’ and ‘nescient’ planes.

However, there are higher forms of cognition in a trans-physical domain that Aurobindo called the ‘higher hemisphere’ of knowledge, namely, a ‘higher mind’, an ‘illumined mind’, ‘intuition’, ‘overmind’ and, at the highest step of the ladder of consciousness, the divine gnosis, or the ‘Supermind’ (for more details see (Masi, 2021) or (Cornelissen, 2018)).

The strong departure of Aurobindo from (past, and to a large degree still present) Western thoughts, is the distinction between consciousness and mind. Consciousness and mind are not synonyms, rather the latter is derivative and subordinate to the former. Mind is that form of cognition that produces incessantly thoughts, mental representations, fleeting images that come and go in time. Consciousness is immutable, that which becomes aware of these thoughts but is the unaffected ‘witness’ that stands beyond time. Mind is only an intermediate step in the evolution of cognition. There are several higher intuitive domains which climb up the ladder of consciousness from mind to the divine gnosis of Supermind. The metaphysical frameworks of universal consciousness, such as cosmopsychism or cosmoidealism, are too coarse-grained models that distinguish only between mind and consciousness or, worse, even equate them to the same entity. It is this conflation that gives rise to several inconsistencies that, if given up, naturally dissolve- as we are going to show next.

While these layers of existence, with their hemispheres, represent the manifest aspect of the universal consciousness, the transcendent aspect is twofold.

First, at the top of the ladder of consciousness is (in line with the ancient Indian Upanishads) the transcendent unmanifest non-temporal unchanging, undifferentiated and impersonal Brahman, the Satchitananda which is at the same time ‘Existence-Consciousness-Bliss’[4]. These are triune qualities of the same and still undifferentiated Absolute and which differentiate only in the realm of divisions and polarities of the manifest cosmos as three different aspects of an immanent Divinity in its impersonal and personal forms. However, aim of the integral yogi is not to realize only a supreme consciousness in a state of ‘liberation’ (‘moksha’), or nirvana, but to transform all parts of our earthly existence by an evolutionary process and make them ready to hold the Spirit from which they originate.

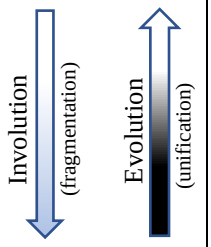
This transformation is mediated by the second aspect of the transcendent. As we are going to see in more detail, according to Aurobindo, on the other side stands the ‘divine spark’, the individual transcendent identity-soul, the ‘psychic being’, a mystic ‘inner flame’ that when awakened is felt behind the physical heart and which, by the process of transmigrations, evolves and grows from life to life. From the mineral to the plant, from the plant to the animal, from the animal to the human and, more recently, it is now evolving in the human towards the gnostic being.

But it is the Supermind, the divine plane of existence connecting the Transcendent with the Manifest that, by a divine ‘Real-Idea’ or ‘Seed-Idea’, a sort of ‘super-archetype’, organizes the cosmos in its spatio-temporal manifestation. It keeps itself behind a veil and intervenes in the evolutionary drama only indirectly through the overmind, not with its full power. The Supermind works always by a principle of

[3] It will hardly escape the attention of the reader that this panentheistic, evolutionary and emergentist cosmology has a pronounced vitalist component. In fact, Aurobindo uses such terms as ‘vital plane’, ‘Life-Force’ or ‘Life-Energy’ throughout his writings. In a separate article (Masi, 2021) we argued that it is a common misconception that modern science has dismissed vitalism or, at least, the form of vitalism this integral cosmology posits.

[4] Capital letters will be maintained according to Aurobindo’s nomenclature.

utmost unity, oneness, and indivisibility, while the overmind functions as a delegate of the Supermind in manifestation and is the first principle of division and polarity. A supermental Real-Idea, coming from a universal plane somehow reminiscent of a Platonic realm, where everything that exists is its expression percolating down through the higher hemisphere first and then into the lower hemisphere. It expresses itself as a universal organizing and active Will-Force, Life-Force and lastly, on the physical plane, as a physical force–the 'Chit-Tapas' or 'Chit-Shakti' of the Vedanta. Here it has become mechanical and deterministic on the universal planes of the comic mind, the cosmic life and the cosmic physical universe, which, however, are not independent from the cosmic subconscient, cosmic inconscient and cosmic nescient basis. The blind forces we observe in Nature are only the expression of an involuted and self-forgetful consciousness in matter that has become mechanical and deterministic in the domain of separation, duality and ignorance: what Aurobindo called the 'lower-Nature ('Apara-Prakriti'). But beyond this lower-Nature there is acting immanently a 'higher-Nature' ('Para-Prakriti') and whose dynamics are much wider, comprehensive, and following laws of unity in knowledge.

<table>
<tr><th>Planes and parts of being</th><th>Hemisphere</th><th>Nature type</th><th>Manifestation layer</th><th>Emergence</th></tr>
<tr><td>Satchitananda – Psychic being</td><td rowspan="2"></td><td></td><td>Transcendent-Unmanifest</td><td rowspan="7"> 
</td></tr>
<tr><td>Supermental</td><td rowspan="3">Higher Nature (Para-Prakriti)</td><td rowspan="4">Manifestation</td></tr>
<tr><td>Overmental</td><td rowspan="2">Higher hemisphere</td></tr>
<tr><td>Higher - illumined – intuitive mind</td></tr>
<tr><td>Mental</td><td rowspan="3">Lower hemisphere</td><td rowspan="3">Lower Nature (Apara-Prakriti)</td></tr>
<tr><td>Vital</td></tr>
<tr><td>Physical – Inconscient - Nescient</td></tr>
</table>

The Spinozian panentheist and the analytic idealist see only the blind will at work in the lower-Nature and fail to see the existence of its supervising counterpart that works things out behind the human ordinary sensorial appearances. But there is no contradiction between the mechanistic aspect of the universe and its divine origin and basis.

This dichotomy between a manifest Nature, 'Prakriti', and a transcendent spirit, 'Purusha', is a recurrent theme in the 'integral yoga' (also called 'purna yoga') of Aurobindo which he adopted from the Samkhya philosophy of the Indian tradition. But this integral cosmology complements the classical non-dual Advaita Vedanta metaphysics with an evolutionary dimension. Aurobindo's ontology is based on his integral yoga, and that which we named 'integral cosmology.' It is integral inasmuch as it integrates the Western forms of philosophical idealism of universal consciousness with traditional Indian cosmologies of the Samkhya philosophy, expanding it to several planes of consciousness, together with an evolutionary vision. He even extends evolution to a preceding 'involution' according to which an original Spirit plunged itself into matter by a process of fragmentation and, thereby, lost the conscious contact with itself in a material forgetful oblivion. It is after this involution that, by a process of evolution and unification, this Spirit is now finding its way back to itself. It is secretly trying to find its original 'delight of being', a delight which is the ultimate nature of the Satchitananda from which it emanates. It is this integrality that is appealing as a synthesis of knowledge between East and West, consciousness and evolution, science and spirituality. Something that the panpsychist, cosmopsychist and cosmoidealist frameworks are lacking or still struggling to embrace.

This integral cosmology is a panentheistic, emergentist and evolutionary teleology. In fact, a cosmology which bases itself on an ever-existent and supreme Consciousness which works out by a Consciousness-Will and a Consciousness-Force all events in time and space, is inherently a cosmology to which we could ascribe an aim, a purpose, a télos entailing a finalistic conception standing behind all the cosmos. The question is if and how this can consistently be integrated into the conceptual framework of modern science based on a mechanistic conception where any final causes are expunged from the outset.

2. Integral abiogenesis

Aurobindo did not express particularly strong opinions on the matter of the evolution of life in scientific terms. Firstly, because he was neither a scientist nor a philosopher but rather a mystic and

spiritual master who developed a practical psychology with no interest in developing scientific theories. Secondly, it goes without saying that in the 1920s the scientific knowledge was not as advanced as it is now. Nevertheless, the metaphysical framework of integral yoga remains actual and it can tell us something about life and its development from a metaphysical perspective that goes beyond the material and mechanical understanding of the workings of Nature, and serve as an interesting extension to the modern scientific view of evolution without being in conflict with it. Aurobindo developed by a first-person mystic experience his model of reality that, we contend, is the best metaphysical framework to date that sheds light on several issues that otherwise remain inexplicable or still obscure or half-lit phenomena in current scientific and philosophical paradigms.

a. The creative Real-Idea and the Life-Force

The 'integral evolution' is characterized by a dynamics dictated by the twofold aspect of Nature: the higher- and lower-Nature.

At the very beginning of the adventure of consciousness–even before the creation of the first cell–Aurobindo delineates a cosmogony where the determinations are almost exclusively cosmic, since there is still no subjective identity. The metaphysical principle that leads from the One to the many, manifests first in a multitude of 'infinitesimals', such as particles, atoms and molecules–that is, by a physical decombination first. Matter is a nescient involved consciousness that emerged due to the extreme and exclusive concentration of the cosmic Mind in itself, and which is a power of division, polarity and fragmentation. It is a representative power of the overmind that is still able to see the unity in diversity and multiplicity in the manifesting universe. The subjective experience is still not inherent in these cosmic particularized expressions.

Here is where the integral cosmology meets with the panpsychist view. But it is not to be confused with panexperientialism–the view that individual particles also have a degree of subjective interiority. The micro-experience is perceived on a different experiential plane: In the cosmic Mind and cosmic Life planes because of, but not in, the electron, atom or molecule. One might say that it is a Super-Subject, that experiences the clash of point-like forces of every particle in the universe as its own experience without a separate subjective individuation in these points. If the electron has any primitive or elementary experience, as the panpsychist contends, it would be the localized experience of a cosmic Mind or universal consciousness in itself.

For physical composites like, say a rock, there is no evolving entity, since an aggregate of solid matter is not driven by any life-force which impels any evolutionary process. It is however an involved nescient form of consciousness constituted by a collection of subatomic particles whose interaction is determined by a mechanical Will-Force. Physical force is a blind force that senses, seeks, and feels, but is not that of an individualised subject identifying itself with a tiny particle. There is nevertheless the cosmic consciousness that experiences through each electron its material 'universal body'. It is what the mystics report when they lose their sense of subjective separation and melt into a state of universal or cosmic consciousness which is that of a cosmic spirit and cosmic Nature, perceiving all the forces *within* itself. A cosmic consciousness that is as much conscious as a whole and with every event, interaction of forces, impact, and movement, from clusters of galaxies down to the electrons, as an impersonal experience of, and in, itself.

It is this aspect that Spinoza perceived or the cosmoidealist conjectured about: That of a Divinity which has still to become conscious of itself by an apparently blind and instinctive self-finding process of evolution. But in the integral cosmology this is only an external aspect of the Divinity, not its entire nature. It is the projection in the domain of Para-Prakriti that renders the omniscient as seemingly ignorant. It is the Divine that puts up the undivine mask and plays its part luring us–that is, itself–into the cosmic illusion of Maya.

But how did the first cell form from a collection of non-living infinitesimals if there was no individualized consciousness and only an instinctive cosmic Mind? Kastrup advances the interesting hypothesis of the 'dissociated alters' embodied in every metabolic system but, as we have seen, it leaves an explanatory gap.

It is the same problem that plagues modern biology as well. Despite decades of research, the question of how from a non-living prebiotic chemistry emerged such an amazingly complex structure as a living biological cell with all its functionalities and its ability to grow, divide, self-assemble, reproduce, and transfer genetic information by mechanisms of inheritance remains unanswered. We suppose that things

may have happened in the infamous 'primordial soup' or in particular environments where organic compounds could build up. Some chemical pathways may have been catalysed by energy sources of geothermal activity, as in deep sea hydrothermal vents, or near geysers, or because of volcanic eruptions. According to another hypothesis, the theory of 'panspermia', the prebiotic material might have been synthesised first in the outer space and brought to Earth by meteor, asteroid or comet impacts. We find many ideas, speculations, conjectures, but the processes that led from non-living matter to the first enclosed living membrane–presumably some primeval prokaryotic cell or bacteria–remains a deep unsolved mystery and, at the time of this writing, nothing indicates that it will be dispelled soon.

From the integral perspective, the abiogenesis–the process of the origin of life– and its subsequent evolution are, instead, turned upside down.

First of all, the aggregation of matter does not 'produce' any consciousness or mind but only furnishes a physical basis for its material manifestation. In Aurobindo's cosmology, consciousness, mind and life do not need any physical substrate to exist; they are principles of existence and manifestation already pre-existent as universal planes in a pre-physical Nature. The material aggregation appearing first as organic macromolecules, then as unicellular and multicellular organisms throughout an aeonic biological process is a reflection of the powers residing on subtle universal planes gradually manifesting on the physical plane. The aggregation of neurons in a brain do not 'generate', 'create' or 'cause' consciousness, rather they are the generation, creation and effect of a universal consciousness, universal mind and universal life that uses it as a means of self-expression by the appropriate combination of a multiplicity of material units. The emergence of the first cytoplasm was not the cause of the emergence of consciousness but the effect of the workings of the super-conscious Para-Prakriti in the realm of the sub-conscious Apara-Prakriti.

It is by a progressive descent into the material manifestation of a conscious Life-Force from the cosmic Life-plane that the first material cellular aggregate forms. Life and mind are immanent cosmic principles that emerged *through* matter. The same principle applies to all the higher levels of consciousness which will progressively manifest in the evolutionary process. Matter is a (still) opaque interface which allows the different cosmic planes of existence to 'shine through'. From the standpoint of the integral cosmology, this gradual 'shining through' of a higher-Nature that transforms the lower-Nature, from a Prakriti of ignorance into a Prakriti of knowledge, is what we commonly call 'evolution'.

Secondly, in contrast to the transcendent Self which is considered the 'One without the second', its delegate in the manifestation of pluralities, the overmind, is not only a power of separation, polarity and fragmentation in the physical realm but on all universal planes. It does not only create the 'physical quanta' by an act of exclusive self-concentration in the physical plane and thereby creates the material particles, but acts by the same principle on all universal planes. The first cell (perhaps just a membrane enclosing some organic molecules) emerged in this difficult self-seeking blind process as a first 'point of life' a 'quanta of life-form' as the determinate of a determining conscious Life-Force from a non-physical cosmic life-plane in the material earthly physical plane. By this mechanism the life-plane first determined this 'life-quanta' which, on the physical plane, we recognize as cells.

But also a first intimation from the mind-plane manifested in form of a primeval mental element. According to Aurobindo, the living cell is not only infused with the vital energy from the vital plane but begins to contain already a first primordial 'mental-quanta'. It is no longer a completely nescient material aggregate, such as the mere mechanical blind reaction of the electron, atom or molecule, but begins to manifest the first primitive forms of subconscient mechanical cognitive awareness. Not just a completely self-absorbed and utterly involuted mind and life which is completely unmanifest in the dead stone. Rather, the first localized expression of a Life-Force from the universal Life-plane which displays a primordial life instinct of a groping consciousness, a guideless sense that feels and clasps in a voiceless world, and also a seeking ignorance that tries to know. The first visible physical result of the lower-Nature's cosmic life enters matter by the pressure of a conscious Force with a primordial element of cognition.

This is in line with modern findings on the so called 'basal cognition' in cells. It is now known that even single-celled organisms display some form of elementary form of cognition that previously was believed to be possible only in brains or organisms having at least some primitive nervous system. It turns out, however, that at least some cells can learn, associate, develop conditioned behaviors, and change them by anticipatory skills. There is clear evidence of conditioned behavior in amoebae (De la Fuente, et al., 2019), escalating actions to avoid an irritant stimulus (Dexter, et al., 2019), amoeba-like

slime mold that can find the minimum length between two points in a labyrinth (Nakagaki, et al., 2000) and can minimize the network path and complexity between multiple food sources (Nakagaki, 2004), and bacteria acting with a collective intelligence (Lyon, 2015)). For a scientific review of basal cognition see (Lyon & al., 2021) or (Gershman & al., 2021).

According to Aurobindo this is not simply an adaptive behavior of a mechanical automaton which mimics a cognitive behavior, rather it is cognition that is fundamental and precedes the organism itself.

Life is evolved out of matter naturally because it is already latent and preexistent in matter from the beginning. Matter is itself a veiled form of life (while life is a veiled form of mind, and so on) because matter is the grosser manifestation of more subtle gradations of the same substance, such as the life-force, prana, which is already involved in all gross matter, even in a stone. Once the external conditions allow for it, matter begins to manifest this life-force (for the same reason that mind, being involved in the life-force, begins to evolve out of it as well). In this 'bio-cosmogony', one might even say that matter cannot exist without life and the first step in evolution is the liberation of the latent life.

But what do we mean by 'life' or a 'vital force' inherent in matter? We have seen that it is extremely difficult to find even a commonly accepted definition of life. We won't propose yet another definition here but it might be useful to highlight that in the 'integral abiogenesis', the properties that are commonly accepted as being characteristic of life are considered immanent will-forces and not derivative aspects, as biologists contend. For example, the impulse of existence, the will to self-preservation, the instinct of survival, emotions, feelings and the pleasures in existence are not mere behavioral outcomes of some material metabolic machinery but are already intrinsic aspects originating from the vital cosmic plane that is precedent to the physical one and, ultimately, the expression of a Spirit's Will to delight. The vital is the agent of Will in the physical evolution, while the capacity for knowledge and the will to know is an impulse coming from a cosmic mental plane. All these qualities and forces of being are prior to the physical. They emerge in and through the physical coming from other planes but are not originated by a bottom-up process as emergent material mechanistic properties.

According to the Samkhya worldview, the way in which this vital force organizes its impact with the material plane is explicated by the three 'qualities' or 'forces' called '*gunas*'. The three gunas are called: '*sattva*' (equilibrium, balance, equipoise, adjustment, correction, adaptation, order, harmony, calmness), '*rajas*' (activity, dynamic movement, passion, energy, excitement, desire, egotism, restlessness), and '*tamas*' (inertia, inaction, inconscience, ignorance, passivity, stability, inactivity, lethargy). Each of these qualities is present everywhere in some combination and in form of a mutual interaction and relationship, with one or the other dominating.

These are considered not just human psychological traits but much more universal principles inherent in all matter, life, mind and every phenomenon in the universe. Aurobindo identifies the three gunas as the '*three modes of Nature*' or the '*three modes of cosmic force*'. They are the 'noumenal engines' of Nature's determinism. In the interplay between life and matter and in their physical appearance, sattva, rajas and tamas manifest and effectuate physically their dynamical action in the evolutionary process as 'retention', 'active reaction', and 'passive reception' to outward impacts, respectively. Sattva retains impressions as its inner self, rajas plays itself out as energy and force, while tamas has not only a negative connotation, it can also absolve to a positive function, such as stability, and is a necessary ingredient in evolutionary processes as well.

Everything that exists in the lower Nature contains a combination of these three gunas. Every physical process or dynamic form is the result of these three qualitative powers interacting upon each other. This has not to be interpreted as a metaphor or mere analogy, but has a physical significance. A simple example is matter itself. In physics by 'material' one means everything having a mass, and mass is defined as a measure of inertia (the resistance to a change of motion) of a body–that is, tamas. Due to Einstein' famous matter-energy equivalence ($E=mc^2$), nowadays we know that matter is a form of condensed energy–that is rajas. And, ordinary matter has also the property of stability–that is, sattva.[5]

Receiving and retaining the impacts of the outer world shape the impressions of this first life-quanta. On the base of these impressions, it also reacts to the outer conditions and begins to maintain a two-way communication that forms, shapes and molds it as times passes.

[5] Not all matter is stable. Nuclei and particles can be subjected to radioactive decay.

*"This evolution is effected by the three gunas, the triple principle of reception, retention and reaction to outward impacts; as fresh forms of matter are evolved in which the **power of retaining** impacts received in the shape of impressions becomes more and more declared, consciousness slowly and laboriously develops; as the **power of reacting** on external objects becomes more pronounced and varied, organic life-growth begins its marvellous career; and the two, helping and enriching each other, evolve complete, well-organized and richly-endowed Life."* (Aurobindo, 1914)(Pt.II, pg.241)

Also, the physical senses of sound, touch, sight, taste and smell are not seen as being just a sensorial evolutionary material outgrowth of the organisms but, rather, as being themselves already inherent powers in and of more subtle planes of being, each representing the more fundamental sense for vibration, contact, form, and 'substance-sensing'.

The Samkhya's description is reminiscent of what modern biology is becoming about. Reframing it in modern language, it sees the organization, sensing and development of the first life form as beginning on the basis of a bi-directional informational exchange with the world.

In fact, we don't need to refer to these ancient philosophical doctrines of which the modern skeptical mind might question how much were the result of a genuine gnostic knowledge or whether they were no more than abstract philosophical ruminations. Modern biology speaks of information stored in the DNA being the result of a population adaption to the environment and the information about this environment being fixed-that is, retained–in the genome. It represents life as a collection of single-celled or multicellular agents that exchange and process information–that is, receive from and react to the world and among themselves. It even founded the areas of research of '*computational biology*' that applies information-theoretical concepts to describe gene expressions and transcriptions, metabolic networks, and protein sequence and structure as the result of an environmental interaction analysis. The fact that biology feels impelled to resort to concepts of information theory is no coincidence. It reflects a deeper truth that can be seized only on trans-material domains where the principles of retention, action and reaction, and reception of a conscious will, are fundamental, not derivative.

Moreover, this 'spiritual abiogenesis' based on the triple process of retention, reaction and reception is a well-known and characteristic function of living organisms: homeostasis. In modern terms, homeostasis is defined as a self-regulating process by which biological systems maintain stability and adapt (sattva) while adjusting to changing external conditions–for example, the regulation and balance of temperature, chemical concentrations or other metabolic functions in response to the stimuli of the environment to maintain constant internal conditions. While homeostatic processes were already known in the middle of the 19th century, their centrality has been recognized only recently (for a modern review in a historical context, see (Billman, 2020)). Science is beginning to recognize that homeostasis is more than just one of the many functions of an organism; it increasingly appears to be a fundamental property of life. It is precisely homeostasis itself that distinguishes life from non-life. The concept of adaptation, the so-central principle of Darwinian evolution, is itself a homeostatic aspect of the organism. American physiologist J. Scott Turner even goes so far as to suggest that homeostasis is the naturalistic bedrock phenomenon of the emergence of cognitive systems. (Turner, 2017) Cognition, intentionality, purpose and desire are all a 'wanting' to attain a biological state by a homeostatic re-adaptation.

In this sense, cognition is seen as foundational to life. But the main difference between these new trends in evolutionary biology and that of a spiritual emergentism is that the former takes life and mind for an effect, while the latter considers it a cause. According to this spiritual cosmology, information exchange and homeostasis are the outer expression and a superficial manifestation of a deeper life-principle inherent in the material world, reflecting a relationship between spirit and matter. It is this way of seeing that is decisive and makes all the difference.

Fig. 1 shows diagrammatically the relation between the noumenal threefold guna qualities inherent in the vital life-quanta backed by the cosmic Life-Force and Life-Will, and its informational abstraction in biology–the information flow represented by the transcription of genetic information for protein synthesis in the nucleus–and a generic stabilising homeostasis scheme of cellular or organismic regulation. The information theoretic and the metabolic aspect of life can be seen as the physical expression of the noumenal or archetypal qualities of reception, retention and reaction. The life-quanta becomes a physical cell, the Life-Force expresses itself as mitochondrial heat generation and the Life-Will in the instinct of survival.

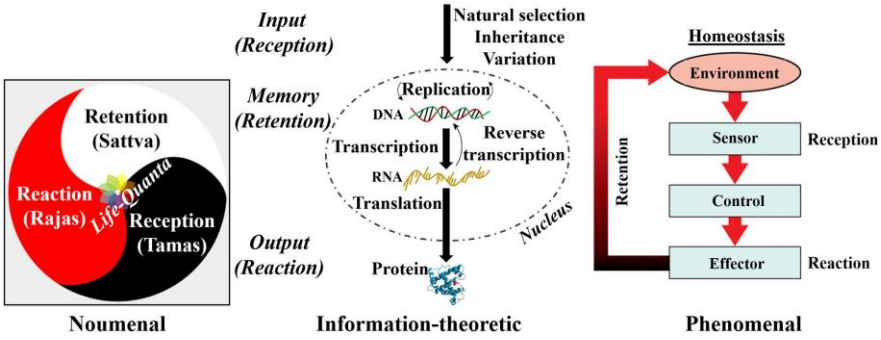


Fig. 1 The noumenal three qualities and their manifestation.

Thirdly, it is due to the indwelling presence of the supramental creative and formative Real-Idea that things emerge and take form, first involved and then evolving out of the unconscious in a dynamical and temporal material universe. It is this immanent Real-Idea that builds in a spatio-temporal reality its own forms and types on the different planes of manifestation, if they are capable of containing its indwelling spirit. A gnostic creative Power that works out by its conscious Force new physical aggregates and which, by a grouping and association builds a material basis to create and multiply an original cytoplasm that leads to the formation of the first living unity, the cell.

From this integral perspective, we can frame a metaphysical model that faces the combination and decombination problem affecting the modern idealistic philosophy of mind in a much more coherent manner.

It is not an aggregation, combination, decombination or recombination of particles, cells, organs or whatever material objects that leads to a new subject having experiences. It is consciousness, life, mind and at the highest levels of the hierarchy of consciousness and existence, the Real-Idea which organizes, combines and decombines. It is by this indwelling impulsion that the lower levels of existence, the infinitesimals associate themselves together by a slowly increasing organisation of a seeking ignorance struggling for knowledge on the blank slate of the nescience. Distinctive of a conscious Force playing with its own idea are the patterns with an identical rudimentary basis for all living organisms in a cosmic play of sameness and variation. It is the *"interchange, intermixture and fusion of being with being, is the very process of life, a law of its existence."* (Aurobindo, 1914-19)(Ch. XXI) This is not a metaphorical view of life rather one of the very principles ruling life. Something reminiscent of the theory of 'symbiogenesis', the evolutionary theory of the origin of eukaryotic cells from prokaryotic organisms such as bacteria and that holds that the organelles of eukaryotic cells (e. g. mitochondria) are descended from formerly free-living prokaryotes taken one inside the other by a fusion process.

But, according to Aurobindo's cosmology, the non-physical planes of cosmic existence are non-evolutionary, what he called the 'typal worlds'. Their primary function is not to evolve into anything. Their function, instead, is to furnish the in-between vertical planes in the cosmic structure that links the supreme consciousness with the physical plane whose destiny is to manifest the Supermind in a completely new creation. The Supermind cannot manifest in the involved nescient matter without its necessary transformation, which it actualises only indirectly, by penetrating through this cosmic ladder of universal planes. Nevertheless, everything was, is, and will continue to remain under the control of the higher wisdom of Para-Prakriti, the higher-Nature, that determines by a Force of Knowledge the downpouring of the Real-Idea in the progressively gross planes with its Consciousness-Force and Consciousness-Will directing the formation of the material aggregation from behind, by a concealed and implicit operation in the Apara-Prakriti, the lower-Nature, manifesting it as a force of ignorance.

The Real-Idea has been 'percolated', so to speak, into the physical and which, to the intuitive Platonic mind or the philosophical idealist, indeed appears as an archetype which still retains something of its original identity. It is the human mind that has lost the ability to seize the inherent télos in Nature's processes. And yet, intuition sometimes captures subliminally a more or less vague and pale redux and fragment of this distant Seed-Idea standing behind the display of natural phenomena. A divine gnosis that at the lower planes expresses in reduced forms of cognition, namely human's analytic mind with its intellectual ideas and half-lit intuitions.

This subverts also the way in which we think of meaning, purpose, aim and goal-directedness. This integral teleology not only posits a directedness, an aim, and purpose in evolution, but also contends

that meaning, a semantic content, cognition and ideas are pre-existing and immanent in Nature. It may not be a coincidence that a discipline that studies and investigates the production of meaning in Nature exists, namely biosemiotics, and which studies the signs and meanings in the biological realm (for an introductory essay see (Else, 2010)). Particularly noteworthy is how–contrary to what a reductionist mind could have predicted–it finds its most interesting applications in molecular biology, particularly in cellular signalling processes. By complicated signal pathways in cells–that is, multistep signalling processes that involve long chains of chemical reactions forming, for example, self-reinforcing cycles we might call 'habits'–life can be interpreted in a unified model as a process of transcription, transmission and reception of signals, messages, and meanings between living beings. Applying system theory, cybernetics and information theory, life could be conceived as a self-organizing complex system where molecular and intracellular signalling pathways acquire a biological meaning and represent a significance which ascribes a qualitative aspect to physical attributes which, otherwise, would have not revealed the role of signs and its meaning other than that of a fuzzy play of chemical exchanges which, in itself, would be without whatsoever apparent meaning or significance. In a certain sense biosemiotics studies the language of life in its representation and meanings of biological codes. From genetic code sequences, of which DNA is the most known and paradigmatic example, to less well-known but perhaps even more interesting cases such as intercellular signalling processes. It discovers that there is no real demarcation line between the human's generation of meaning and intentionality and the generation of signal and messages with an ascribed functionality–that is, 'purpose'–in the workings of a natural world which, in the eyes of naturalism, should have none. Words as 'message', 'signal', 'code' and 'sign' are considered as being only metaphoric and that could someday be reduced to the mere chemical and physical interactions of complex adaptive systems. But these terms remained ineliminable and the reductionist plan is becoming increasingly untenable, especially with the accelerating discoveries in cell signalling studies. There is something inherent in Nature that refuses to allow us to eliminate what we call 'meaning', 'purpose' and 'intention', as if they would represent and stand for an idea, a blurred image of an original idea, a Real-Idea. The unsurmountable complexity is not a fuzzy by-product of a Darwinian selective process but the expression of an idea in a world of polarities which origin is that of an unitarian Consciousness. From his mystic heights Aurobindo sees the phenomenal universe as the reflection of a supramental Sign, Symbol and Meaning and that mind can only vaguely seize or superficially intuit.

b. The evolution of the soul

But how and why does in these 'life-quanta' and 'mind-quant' a sentient subjectivity come in?

According to the non-dual Advaita Vedanta every individual is an individualization of the transcendent Brahman in the manifestation. A non-evolutionary self-existent and timeless spiritual individuality beyond space and time: The 'Self' or 'Atman' or 'Jivatman' or just 'Jiva'. Aurobindo's vision embraces this identity as well but extended this metaphysics to an evolutionary soul. Evolution is working out an ever-increasing self-awareness by an individuation of the cosmic Self in a 'psychic entity' that forms the psychic being, the evolutionary soul. Both the Jiva and psychic being constitute our 'central being', the true individuality. But while the Jiva is our individuated spiritual core that does not participate in the phenomenal and temporal universe, the psychic being takes form in–and is formed by–the evolution in time. The impersonal divine Absolute, the 'portion' of the Absolute which is the Jiva, and the psychic being are three terms of the Transcendent. The first two are immutable and do not evolve, while the latter is a mutable soul that progresses by an evolutionary process. All the Jivas are a multiplicity of the Divine and which 'appear through' the created existence, being divine sparks that contain something of the Existence-Consciousness-Bliss of Satchitananda from which they have been emanated. As analogy, we can metaphorically see the Divine as a hologram, while a portion of it is the Jiva. This portion, however, still contains the image of the whole. It is still the image of the same divinity but in its individualized form in Nature reflecting only part of its potentiality.

But it is the psychic entity which is of evolutionary interest in our metaphysical teleology. According to Aurobindo it grows, develops and evolves by the accumulation of experiences in a process of transmigration from one physical embodiment to another, forming the psychic being. From the most elementary forms of life to progressively more complex ones: First in a single cell, then in a pluricellular combination, then in an organism with increasing organic complexity and, while the psychic develops, also the Jiva increasingly 'appears through'. The psychic being is a determinant, not just a determination.

The complexity of the physical aggregate reflects not only a determination coming from the physical environment due to a Darwinian selective pressure. It comes also from the environment of other cosmic planes of existence and also from within, namely from an 'inner flame' according to its evolutionary state.

A 'newborn' transcendent soul that has just formed and is at the very beginning of its evolutionary journey through the eonic material processes of the physical universe, is still an almost complete unconscious entity. It will have to start from the bottom of the divided and differentiated nature of the material cosmos–that is, it may identify with the involved and almost nescient experiential phenomenality (say a cell, a plant, or some primitive living form). It is the transcendent central being that, by an identification and fusion in and through matter, leads to the aggregation of a material structure around it that reflects the metabolic individuation.

This sheds further light on the decombination problem in terms of an 'experiential decombination' which participates in the aforementioned physical decombination. It is not by combining or decombining material aggregates that a conscious subjective self appears, because a pre-existing psychic entity growing into a psychic being already exists in an unmanifest mode as an emanation, or spark of the universal Self.

An unevolved soul will be more prone to the clash of forces of the lower-Nature. On the scale of multicellular organisms, such as plants the spiritual identity of the being is still far from being formed. Nonetheless, plants express and have a sensibility to psychic properties. Their beauty in form and color is not just a human interpretation and their tendency to grow towards light is also not a purely mechanistic photosynthetic reaction, but are psychic expressions on the physical plane. They express an aspiration towards the Light of the Spirit which, on the physical plane, is expressed as the electromagnetic force. Plants have a longing towards harmony, beauty and good. Something Plotinus recognized: beauty is a power of the One flowing into things, a principle of unity emanating from the eternal Good and one that we, as souls, recognize in forms because they reflect what is in us and, deep down, is like us. We might say that beauty in material forms mirrors God's delight.

c. Death, natural selection and saltation

With the emergence of the first self-reproducing living cell, death makes its first appearance on the stage of the cosmic drama. From the perspective of this integral evolutionary cosmology, death is not a malady or an inevitable accident.

According to the aurobindonian teleology, in the night of the nescience of matter the untransformed physical is still not ready to hold the fullness of the powers of the Spirit and is still subjected to processes of dissolution. Physically, it stems from the inability of the material sheet–that is, the physical biological cells–to keep up with the inner pace of transformations. The untransformed body that still has not been subjected to a higher spiritual transformation isn't able to keep up with the pace and plasticity of the indwelling spirit, the psychic being, and the development it could achieve due to its experiential life journey and of its transmigrations. Despite their initial vital and embryonic mental element, cells are still subjected to the subconscient, inconscient, and nescient planes of inertia and ignorance–that is, to processes of degradation and finally dissolution. If matter would be capable of embodying the full power of life and of the Spirit it would be able to cope with the process of the physical disaggregation caused by the cells injuries and death. The death of an organism is determined by its inability to transform quickly, flexibly, and with a plastic adaptation, not only to the physical environment, but also to that of the indwelling spirit. Modern cell biology begins to recognize that, at least in principle, cells are immortal. Curiously, it seems more difficult to explain death than immortality; modern science still struggles to explain the aging process in a satisfactory way.

But the trick of a wisdom of an immanent Consciousness in Nature to maintain (literally) alive the still not fully expressed Real-Idea is reproduction. The cycle of renewal performed by reproduction and death avoids the premature dissolution of the species which, from the spiritual perspective, is the manifestation in matter of a trans-physical archetype inherent on other planes of existence, and which are themselves a top-down pouring into matter of the Real-Idea. Reproduction was the first primal instinctive necessity without which the species' archetype could not be maintained to progress in a domain of ignorance unable to hold the Spirit. The instinct of survival and the sexual urge are no fortuitous coincidences, but the very basic preconditions for a physical vital existence that, although subconsciously, strives to maintain an inherent plan.

Moreover, death is part of the evolutionary process that allows an evolutionary soul to create different experiences in different forms and lives. Death is a transition that allows for a further psychic progression, not an annihilation or a reset that throws the being back to a point of departure. Therefrom another second aspect of the function of reproduction and death appears: It becomes also a means for the growth of the individuated spirit. Death becomes an opportunity of renewal and further growth of the psychic being sustaining the material structure. It is the physical dissolution we call 'death' that allows the spirit to enter new physical combinations and make new experiences on the material plane it otherwise couldn't have. The cycle of life offers to the indwelling presence of the psychic to continue to grow in a variety of physically more perfected generations on the material plane. Paradoxically, on the occult level, one of the raisons d'être of death is to accelerate evolution.

Another point of interest, closely related with the function of life and death, is natural selection.

From the integral standpoint, natural selection is not just a sifting procedure, it is also determined by the subconscious energy in the type of species which answers to the need of the environment while in another species it remains unresponsive and, therefore, unable to survive. The reactions of a living creature to the external stimuli do not depend only on its physical constitution and chemical status but also depend on how it feels, perceives and experiences the environment from the inside. It is not only a nervous sense-based automatic reflex of the body to external contacts, even though this is the predominant aspect in the most primitive forms of life (and not absent in humans either), but also a response that comes from within. Natural selection is, on one side, the external repeated attempt of the lower-Nature to combine, mix and then dissolve several potentialities and types, like in an everlasting alchemical process. On the other side it is also determined by an internal pressure that subconsciously tries to realise an innate bliss, harmony, power, and the delight of being which was lost in the involution of matter.

Moreover, while the concept of involution might sound in conflict with the modern understanding of evolution and cosmology, it doesn't contradict it. There is no inconsistence. For example, the dichotomy between the growth of consciousness and the organic change in evolution–that is, speciation–is already contained in this integral view. One is the expression of the other, bidirectionally.

Thus, the integral concept of evolution is not seen solely in terms of the result of physical forces but admits also psychological forces playing a role, from the inside-out of the organism. Aurobindo's evolutionary vision is more in line with the modern 'extended evolutionary theory' or 'the third way' (e.g., (Laland, 2015) or (Shapiro, 2021)) that, among other things, decouple genotypic and phenotypic changes by emphasizing epigenetic variation, the role of the environment and the response of the organism to it and its ability to modify it, non-genetic and behavioral inheritance, punctuated equilibria, symbiogenetic processes, etc., complementing the neo-Darwinian Modern Synthesis formulated in the 1940s which explained the evolutionary phenomena as a process prevalently based on natural selection, adaptation and gradual and accidental genetic drifts. In this contemporary view of evolution the microevolutionary genetic predetermination still plays a role but is no longer thought as the sole factor, also macroevolutionary factors play a role. An organism is not seen as a passive container of 'selfish genes' rather as an active player that can decide the evolutionary outcome.

Just to clarify how there is no contradiction between the naturalistic and metaphysical standpoint consider the following example. It is now accepted that, contrary to 'gradualism'–that is, the idea that selection and variation occur in small increments–also 'punctuated equilibrium' (Gould, 1983) of sudden large mutations in one or few generations can occur, and which can eventually lead to a new speciation. This view of the evolutionary temporal dynamics that contrasts a slow and gradual evolutionary progress, is already inherent in the integral evolution. Because Aurobindo's standpoint sees it also from the perspective of the evolution of the indwelling spirit rather than focusing exclusively on the mechanistic physical processes: When the species rests for a long time without externally visible phenotypic changes, it may develop new powers of consciousness internally. The physical surface-form remains substantially almost unaltered, but the being is growing inwardly in consciousness and in its cognitive abilities. Once this internal process has arrived, by a sort of 'interior accumulation', at a threshold, it manifests the inner change in a sudden external leap by creating a new physical form in few cycles of psychic transmigration. Humans may well be at this threshold between one and the other evolutionary stage.

These were only few of the many examples one can make to show how the integral view sees the evolutionary and cosmic creative process from a very different perspective but without running in

contradiction with the Darwinian evolution rather it extends, complements and integrates it. It is not the processes as such that an integral cosmology questions. It is the way of seeing the very same phenomenon that changes. Strictly naturalistic evolutionary theories struggle to eliminate final causes, reducing it into a blind and automatic clockwork without meaning. Evolution is not just a process of mechanical creation but of a superconscient emergence, until finally the supramental consciousness will take full control and transmute all terrestrial life.

III. Conclusion

We presented an integral cosmology in the light of the vision of Sri Aurobindo. This is neither a monistic nor a dualistic ontology, but rather a multidimensional description of reality as it appears from higher states of consciousness. It results in a vision based on Eastern and Western philosophies and amended by an evolutionary emergentism that extends Western models which recently gained some attention, such as cosmopsychism and cosmoidealism. The conceptual difficulties and the internal inconsistencies of the latter find a natural resolution in the context of this extended integral cosmology in an evolutionary and trans-rational perspective. Consciousness studies and modern scientific findings which challenge the physicalist worldview may find here a coherent and elegant systematisation in form of an advanced metaphysical teleological perspective. Even though it takes quite a bit of an effort to get acquainted with the richness and complexity of Aurobindo's cosmology we believe it to be the most promising theoretical framework that can accommodate both science and spirituality in a unique synthesis of knowledge between Western and Eastern materialistic and metaphysical cosmologies.

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