

“Life there was ... before Earth” – Scientists agree with the Buddha

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Note:

This is an interdisciplinary attempt by a non-scientist to understand the Buddha’s Teaching of the Devolution and Evolution cycle of the universe in the Aganna Sutta of the Digha Nikaya (D 27). While the Sutta has been taken by Western Scholars to be a satire and parody, this writer sees in it a serious exposition on the historical universe, to the extent it can be ascertained on the basis of Western Science. For a fuller, scholarly treatment, please contact the author at suwanda.sugunasiri@utoronto.ca.

“Scientists Richard Gordon and Alexei Sharov¹ have suggested that if the rate of increase in the complexity of biological systems in the course of evolutionary history followed Moore's Law, then life existed before the Earth was formed.”

<<http://www.digitaljournal.com/article/348515#ixzz2R9WpPINK> >

The idea that human life started from outside of the earth, of course, is not new. It was proposed some thirty-years ago by the UK-based Sri Lankan astrobiologist Prof. Chandra Wickramasinghe, Director of the Buckingham Centre for Astrobiology (BCAB), UK, along with his Professor, Fred Hoyle. This was the **Panspermia Hypothesis** that life on Earth did not originate on our planet, but was transported here from somewhere else in the universe (see Wickramasinghe & Trevors, 2013).

¹ Gordon is a Geneticist of Gulf Specimen Marine Laboratory in Florida and Sharov is with the National Institute on Aging in Baltimore.

However, the Hypothesis does not explain how that life that arrived on Earth came to be in the first place. Well, surprisingly to many perhaps, the Buddha (6th.c BCE) seems to know!²

Addressing a person by the name of Vāsetṭha, in a Discourse titled ‘Knowing the Primeval’³, the Buddha suggests that the origins of ‘life’ was *in space*!

In the relevant section of the Discourse, the Buddha’s characterization of the ‘origins’ begins with a period of time when “somehow, the universe contracts”. We may translate the term *samvaṭṭa* ‘contracting’ as ‘Devolution’. I quote directly: “There comes a time, Vāsetṭha, when, somehow (or sooner or later), after the lapse of a very long period of time, this world contracts. In this contracting world, as it just happens to be, there comes to be ‘contracting-Ābhassara beings’ (or ‘Beings Ābhassara-contracting’) (or, in general terms, ‘There happens to be existing in this contracting world Ābhassara-beings’).” Here, I am translating from Pali, the language closest to the Buddha and the one in which his teachings were first committed to writing in the 1st c. BCE in Sri Lanka.

‘Being’, of course, is the Buddha’s word for ‘sentient life’, i.e., one with senses (six including the ‘mind sense’) with a physical form, i.e., psychophysique (*nāmarūpa*). Both humans and animals come under this phylogenetic class.

“And they stay there for a long time”. In terms of characteristics, Ābhassaras are “*mind-made, ... self-luminous and moving through space*”.

Returning to the label for beings, namely ‘Ābhassara’, it is of extreme interest that it can be literally taken to mean ‘**hither-bound-shining-arrow**’ <*ā-* + *-bhās* + *sara*. Of course, the Buddha is speaking from the perspective of being on earth, hence ‘hither-bound’.

But what is this ‘shining’ (*-bhās*) being?

It may be noted that the beings were said to be ‘moving through space (or ‘air’). So we have to think of a phenomenon in the sky. And Ābhassaras are said to be ‘self-luminous’. So what could this self-luminous being flying through space?

² While the Buddha, of course, is correctly known to be a religious teacher, what is little known is that his teachings are based on objectively arrived at discoveries of the reality (*dhmma*) of the world in relation to humans as well as the universe. See e.g., Bodhi (ed), 1993 / 1999, for an analysis, and Sugunasiri, 2001 for a popular treatment of the mindbody.

³ ‘Knowing the Primeval’ (*Aggañña Sutta*). For a translation, see Walshe, 1987, 1995.

The Buddha posits every phenomenon in the universe to be made of the four Great Elements - Water, Heat, Wind and Earth, the four mixing in different dimensions explaining the variation. So the luminosity in beings may be understood in terms of a dominance of the Heat element.

Let us now turn to Western Science for some additional help: “Electrons somehow “jump” between specific orbits, and as they do, they appear to *absorb* or *emit* energy in the form of light, i.e., photons”, say scientists Kafatos & Nadeau, in their book, *The Conscious Universe* (1990, p. 31) (italics added). As for ‘absorbing’, Einstein “argued that the energy of light is ... concentrated in small, discrete bundles ... or ‘quanta’, of energy. ... It is the energy of the individual quanta, rather than the brightness of the light source, that matters.” (p. 29). So it appears that a case may be well made that the shine-emitting and shine-absorbing Ābhassaras are nothing but photons, at least a primordial variety thereof of the simplest structure.

“If photons could not crowd together in the energy of light, the light energy that fuels quantum mechanical process that lead to the evolution of chemical structures, including what we call life, would not exist” (p. 33). It is of relevance to note that in the Buddha’s Higher Teaching, i.e., *Abhidhamma* ‘Metaphysics’, ‘heat’ (*utu*) comes to be listed as one of the sources of origin for matter (Bodhi (ed.), 246). So what the self-luminosity symbolizes, or speaks to, then, can be said to be some form of ‘life’ associated with matter. This suggests early rudiments of Consciousness. We may note in this connection that the Ābhassaras are characterized as being mind-based (*manomayā*), the Buddha’s characterization of sentient life, as noted, being ‘mindbody’ or ‘psychophysique’. So Ābhassaras, then, can be said to be a phenomena with both a body and a mind.

Now how about that ‘arrow’ that the Ābhassara was said to be. Light travels at 299,792,458 metres, i.e., 186,282 miles, per second (671 million miles per hour). So what better image could the Buddha have found from the culture of the times to capture the idea of speed? Today we could think of the Ābhassaras as probably a variation of the shooting stars.

Now it needs to be pointed out that this scientific explanation is not intended to replace the traditional teaching of this topic, but only to provide an additional angle.

To continue the story in the Discourse, if ‘moving through the air’ suggests a form of life in the sky, the Ābhassaras, says the Buddha, next alight from ‘there’ on to ‘here’: “It so happens, Vāsetṭha, after the lapse of a long period of time, this world **expands** (*vivaṭṭa*). In this

expanding world, as it happens, beings, *having passed away* from their Ābhassara **bodies**, come hither”.

But here begins the climax vis-à-vis the proposition of the two scientists quoted at the beginning, that life existed before the earth had appeared. “At that period”, continues the Buddha, “... it was just one vast mass of water”. It is of relevance to note here that the Ābhassaras who have come ‘hither’ continue to have the same characteristics as who were ‘there’. That is, they were not only mind-based and self-luminous, but also ‘flying through space’, given that there was yet no solid land to walk on.

The Buddha continues: “...all was darkness, blinding darkness. Neither moon nor sun appeared, no constellations or stars appeared, night and day were not distinguished, nor months and fortnights, no years or seasons”. And, interestingly, there were at that time, “no female or male [in that order], *beings reckoned just as beings*.”

Let us see what happens next: “Then for these beings, somehow (or sooner or later), after the lapse of a very long time, **savoury earth [spread itself] over the waters all across** where those beings were. It looked just like the skin that forms itself over hot milk as it cools. It was endowed with colour, smell and taste. It was the colour of fine ghee or butter, and it was very sweet, like pure wild honey.” We may note here again the phrase ‘after the lapse of a very long time’, suggestive of the millions or billions of years prior to the forming of the earth. In evolutionary terms, this may suggest the beginnings of amphibious life.

So here, then, is the crux – the Buddha talking about life existing before the earth was formed. This, then, seems to be in agreement with the Scientists’ hypothesis. ‘Life’ here, of course, should not be understood to mean human life, but rather a form of Consciousness that would eventually evolve into Homo Sapiens Sapiens.

That process begins when, as in the characterization of the Buddha, the sun, moon, stars, day and night, and seasons emerge, needless to say over time. And females and males, too, as part of the process. They begin to taste the ‘savoury earth’, suggesting that they are now no longer flying, or exclusively flying, but have begun to walk. Soon beginning to co-habit, there comes to emerge a community and polity. In this process comes to emerge as well negative personal qualities such as greed, robbery, jealousy and lawlessness. This is when they come together to elect a leader, called the Great Elect; it is the people that have elected the Ruler, for a share of their crop.

But how long ago before earth appeared, then, did life begin?

To return to the Western Scientists, on the premise that genetic complexity of living systems double every 376 million years, Gordon and Sharov project the origin of life back to almost 10 billion years ago. Geologists believe the age of the Earth to be about 5.5 billion years. In the Western Scientific understanding, the Big Bang theory is “the very beginning of our universe”, which according to the standard theory, sprang into existence around 13.7 billion years ago.<<http://www.big-bang-theory.com/>>.

But for the Buddha, the Big Bang can be said to be only the end of the *Devolutionary* phase. We may remember that the photon-like Ābhassara makes its appearance at the end of this *Devolutionary* phase. This, then, suggests that Life, or Consciousness, in the Buddha’s understanding, dates back even further than 13.7 billion years of the Big Bang.

But we are pushed further back. By definition, the 2nd Law of Thermodynamics suggests that the contracting Ābhassaras would be the outcome of a contracting process of an **earlier Evolutionary** phase. “The quality of matter/energy deteriorates gradually over time. How so? Usable energy is inevitably used for productivity, growth and repair. In the process, usable energy is converted into unusable energy.” And this process is called ‘entropy’, meaning “a measure of unusable energy within a closed or isolated system”. The Devolutinary phase can then be said to be the result of entropy from a *preceding* Evolutionary phase.

Did that evolutionary process also end up in humans, or human-like creatures? An interesting question to ponder upon.

According to *The Huffington Post*, Sharov said: "There are lots of hypothetical elements to [our argument]... but to make a wider view, you need some hypothetical elements." We have in this short paper, I hope, done better, quoting chapter and verse, so to speak.

But the skeptic insists, “But how would the Buddha know?”

The Buddha may not have had a microscope, but we only have to remember that he was working with a sharp, state of the art cutting edge instrument - an ‘introscope’ so to speak. This was his **mind**, cultivated over six years into the sharpest focus ever imaginable, and the mind functioning at a level beyond conventional perception (*saññā nirodha*), first under renowned meditation masters, and then on his own. His experimentation was so drastic that he nearly died, when he abandoned the excruciating self-inflicted suffering, and arrived at the Middle Path. Returning to a normal life, and continuing to meditate, he comes to be awakened to reality. Hence the appellation, *Buddha* ‘The Awakened One’.

So what we can say is that the Buddha was a scientist in every contemporary sense – i.e., arriving at conclusions only on the basis of evidence, following upon observations. As he says, all he did was to *discover* what was there. True, just as with the scientists Gordon and Sharov, he did no lab experiments, in arriving at his understanding of reality and nature. But he did indeed test and re-test in his mind's lab the hypotheses and theories that appeared on his Discovery Channel!

So are there any other of his teachings that would tell us of the Buddha's scientific intuition and genius? You bet!

The tracing of 'the Primeval' as we have seen above itself would be an example of a Foundational Teaching of his - the Principle of Conditioned Co-origination (*paticcasamuppāda*) that shows that everything is conditioned. The wording '**co-origination**' is not to be missed here. Western Science provides an excellent example. Just as proteins in the DNA grow in the presence of amino acid, amino acid grows in the presence of proteins. That is to say both proteins and amino acid grow together, in relation to each other in a co-origination relationship. The causality posited by the Buddha follows the formula, If A, then B; if no A, then no B. It is also a three-fold conditionality: linear, reciprocal and circular. It is thus that Joanna Macy has a whole book on *Mutual Causality in Buddhism and General Systems Theory* (1992).

It is his understanding of conditionality that can be said to have led to the Buddha's denial of a Creator, or a First Cause. It also denies a duality, in preference to a monism. This in turn leads to another Foundational Teaching - the Theory of 'asoulity' (*anattā*). That is to say that there is no puppeteer (soul) behind our thoughts and actions. They are simply all processes, reminding us, e.g., the various systems that keep sentient life going – the Autonomous Nervous System, the Cardiovascular system, the Limbic system, the Circulatory system, etc.

Another scientific theory posited by the Buddha, as hinted at above, is that of the six senses, identifying the mind as the sixth, noting that the 'mind is the forerunner'.

A related concept, applicable to all of nature, is that everything goes through the stages of coming to be, existing and dying. This is the Theory of Change (*anicca*) i.e., Impermanence.

His Four Noble Truths follows a medical paradigm: suffering (*dukkha*) (Identification of illness), cause for suffering (*samudaya*) (Diagnosis), that there is a solution (*nirodha*) (Prognosis) and the path to the solution (*magga*) (Prescription).

The list of the Buddha's findings and insights is endless (see the Wisdom Series later).

But how do we know all this? Well, the *Buddhavacana* (Buddha's Words) had come down through oral transmission, and brought to Sri Lanka (then Tambapanni) in the 3rd c. BCE by Arahant Mahinda. It was committed to writing in Sri Lanka in the 1st c. BCE, in the language of Pali, the language closest to the Buddha, in a place called Aluvihara., by Sinhala Buddhist monks.

Fifteen times the size of the Bible, it is divided into three 'Baskets', hence the name *Tipiṭaka* (< *ti-* 'three' + *piṭaka*). It came to be translated into English by a British Civil Servant serving in Sri Lanka by the name of Dr Rhys Davids, ably assisted by his wife, Dr. Carolyn Davids in the 1900, and published under the aegis of the Pali Text Society in London. Today we have more up to date translations of the first Basket by contemporary scholars (British scholar Walshe, 1987/1995; the American scholar Bodhi, 2000 and 2012 and German scholar monk Nanamoli & Bodhi (1995/2001) and published by Wisdom Publications. There are also Chinese and Tibetans versions of it now.

So we have solid evidence of what the Buddha has discovered and taught. As in this brief paper, one of them is that before the appearance of the earth there was life, meaning sentient life, i.e., with a mind. **Ābhassara** was characterized as being 'mind-based', the Pali term being '*manomaya*' (<*mano-* 'mind'+ *maya* 'based in), from the root *man-* meaning 'to think', reminding us the English words 'man' and 'mental'. This is to say that Consciousness was part of the make up of the Ābhassaras, suggesting presence of life prior to the formation of the earth.

That the universe has no beginning or end, but evolves and devolves in cyclical fashion is a related second discovery of the Buddha.

"Oh, this is the Buddha's 'imagination', perhaps 'interpretation', but surely not fact", the hard-core 'give me the evidence' physicist protests. But wasn't the Boson particle a product of 'imagination' and 'interpretation' by Higgs? How about the Greek Philosophers who are credited as "the originators of scientific thought"? Were they not interpreting nature based in their belief in God (Kafatos & Nadeau, 1990, 100, pp.)? After all, Einstein was not led to the special theory of relativity . "as a result of experiment any more than Galileo was led to his law [relating to the acceleration of bodies in free fall] by dropping objects of varying weights from the Tower of Pisa" (Kafatos & Nadeau, p.106).

We hope, then, that we have shown that the Buddha's discoveries are not "subjectively-based constructs" (Kafatos & Nadeau, 108), culture-bound or language-bound. Some evidence for it is that his Teachings have stood the test of time. As far as is known, in the history of 2500 years, nothing said by the Buddha has ever been proven to be wrong. Surely this is a valid

criterion in scientific investigation. There may, of course, be many an idea of his awaiting vindication, just as the Higgs Boson did for six decades, but that is not the same thing as saying that he has been proven to be wrong. For all those decades, nobody said that Higgs was wrong because he had not been proven.

So should Western Science rush to embrace everything the Buddha has said? We only have to listen to the Buddha's caution:

“Yes, Kalamas [a group of people], it is proper that you have doubt, that you have perplexity, for a doubt has arisen in a matter which is perplexing. Now, look you Kalamas, do not be led by reports, or tradition or hearsay. Be not led by the authority of religious texts, nor by logic or inference, nor by considering appearances, nor by the delight in speculative opinions, nor by seeming possibilities. **Nor, indeed, by the idea, “This is our Teacher”.** But, O Kalamas, when you know for yourselves ...” (See Bodhi (Tr.), 2012, p. 280. for the fuller context).

The Buddha might well have been addressing the Western Scientist today!

It is our humble invitation, then, to the Western Scientist to make bold to accept the Buddha's invitation to ‘Come and see’ (*ehi passiko*) to check out if the Buddha's understanding of the universe in cyclical motion, and conscious life having its origins in space, has validity. And if so, how about revising the current thinking of the Big Bang being the beginning of the Universe?

Developing some ‘faith’, or confidence, in the Buddha might prove to be a facilitative ‘thought-turner’, a ‘learning curve’ here. But you won't be sorry. As noted, discoveries by the Greeks and the 19th – 20th c. Western Scientists including Einstein himself up to his adolescence, came about as they sought to understand the workings of a Creator God they believed in. So it was ‘faith’ that prompted them into action and research. But if that was an ‘irrational faith’, we can do better with the Buddha. Western Scientists can develop a ‘rational faith’ (*ākāravatī saddhā*), since the Buddha is a historical persona, and his discoveries are readily available to be tested. The keener researchers may even want to turn their eyes to the *Tipitaka* itself (as above), in search of other scientific gems, enabling them to quote chapter and verse as they readily do when it comes to Greek pioneers. The additional study of the Pali language will allow them to check for themselves the original meaning of the Buddha that may have been lost in translation. Such initiatives may hopefully save scholars tons of wasted time, and help make advances in knowledge in quantum leaps.

Anyone up to the challenge?

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