

## FUTURE OF SCIENTIFIC STUDY IN THE LIGHT OF INDIAN SPIRITUALITY

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*The so-called sciences which deal with the mind and men (psychology, etc.) are so much dependent on physical science that they cannot go beyond narrow limits. If science is to turn her face towards the Divine, it must be a new science not yet developed which deals directly with forces of the life-world and of Mind and so arrives at what is beyond mind; but present-day science cannot do that.*

—SRI AUROBINDO<sup>1</sup>

### Present-day Science:

*The Narrow Limits of Physical Science:* The fundamental assumption of physical science pertains to the primacy of matter. This assumption has a major lacuna. It imprisons itself in the grossness of the obvious. In consequence, it does not take into account realities of greater subtlety; thus on the one hand, it is forced to deny the independent reality of consciousness, life and mind; and on the other hand the reality of even matter of subtler nature belonging to the inner and the inmost levels of being get ignored.

It is a historical fact that modern science has had its origin in the realization that the obvious does not necessarily reveal the whole truth; this simple realization had led to what could correctly be described as a struggle against the suzerainty of the obvious. It was in this struggle that Bruno had to lay down his life<sup>2</sup> and Galileo had to suffer persecution. All the achievements of modern science are nothing but an elaborate footnote to this struggle. Yet it is an irony perpetrated by Time that the successful struggle against the obvious now finds itself caught in the net of the obvious. The axiomatic method which consists of reducing a proposition through logical steps to a final proposition that is self evident is an exercise in obviousness. Unless a piece of information gets connected with what is already known it will not be accepted as knowledge. Hence, the nature of knowledge, as it has often been remarked, is to proceed from the known to the unknown. This is the fundamental reason that makes the scope of physical sciences narrow. Recent research shows that there are "... reliable empirical evidence for human

<sup>1</sup> *Letters on Yoga*, SABCL, p. 205.

<sup>2</sup> On 17-02-1600 he was burnt at the stake.

potentials or abilities beyond those that are mediated by conventional sensorimotor processes or conventional energetic and informational exchanges. Variations of these same abilities are frequently described within many, if not all, of the various spiritual and wisdom traditions.”<sup>3</sup> But these will not be accepted as authentic facts as these will fail to come up to the standards set by physical science.

Physics in fact is the master science; the mood and methodology of the rest of the scientific disciplines are set by physics. In the early 16<sup>th</sup> century when Nicholas Copernicus toppled the then officially accepted geocentric cosmology based on Ptolemy and the Bible and suggested the heliocentric view, the ground was set for the advent of modern science. And it got firmly established with the contributions of Sir Isaac Newton in the late 17<sup>th</sup> and early 18<sup>th</sup> centuries. In Newton’s view the universe is made up of solid objects interacting in accordance with the laws of Newtonian mechanics. Modern atomic theory of the 19<sup>th</sup> century was nothing but an extension of the Newtonian physics into the realm of the extremely small. Newtonian physics proved to be so hugely successful in both theory and practice that it came to be considered as the ultimate approach in understanding natural phenomena. But in early 19<sup>th</sup> century itself, natural phenomena that could not be explained from the Newtonian perspective were discovered.

The electromagnetic phenomena discovered by Michael Faraday (1791–1867) and Clerk Maxwell (1831–1879) made it impossible to uphold the solid particle concept of Newton and led to the concept of energy field where field is defined as a condition in space with a potential for producing force. The picture of the universe as made up of particles interacting with one another had to give way to another picture of a universe filled with diverse fields that interact with one another and generate forces of diverse kind. Action at a distance through energy fields has broadened our concept of reality. The sway of Newtonian physics invariably necessitated the invalidating of all experiences that had to do with action at a distance. For example, Newtonian physics rules out the possibility of a mother knowing that her child is in trouble when that child is far away from her in space and has no means of communication known to science. Yet such knowing is common with at least some if not most mothers. Invalidating a phenomenon for want of an explanation is not science but scientism.

But scientism rules supreme when it comes to psychic phenomena. How this is exemplified by the experiences of a scientific investigator who also happened to be a sanyasin has been detailed in the autobiography<sup>4</sup> of Guru Nitya Chaitanya Yati, the first and the last director of Psychic Research

<sup>3</sup> Braud, W. (1998). “Complementary Ways of Knowing, Being, and Expression,” *Transpersonal Research Methods for the Social Sciences*, Braud, W., and Anderson, R. (Eds.) Sage Publications, Thousand Oaks, CA., p. 39.

<sup>4</sup> Yaticharitam (2003). Malayala Patdana Gaveshana Kendram, Thrissur, Kerala, pp. 466–495.

Institute, that had functioned in the early sixties of the last century, in association with the Department of Neurophysiology, All India Institute of Medical Sciences, New Delhi. Though Yati could organize the demonstration of extraordinary powers of several yogis under the most stringent of conditions to rule out fraud, he had failed to convince the scientists of the genuineness of the supernormal yogic feats. Such was the narrowness of outlook of the scientific community with which he was associated that he had to resign from the post of the director of Psychic Research Institute in sheer exasperation. The time was not yet ripe then for psychic research. For the scientists' outlook was not yet free from the mechanistic outlook of Newtonian physics.

### Paradigm Shift

Einstein's special theory of relativity had proved in 1905 the inadequacy of Newtonian physics, but its implications for scientific thought in general had been rather unclear at that early date. Thanks to Fritjof Capra's *The Turning Point*,<sup>5</sup> it is known to most inquirers these days that a paradigm shift has taken place in physics, and that this shift has significant implications for psychic research. If Newtonian physics had no scope for explaining action at a distance, and if its notions of absolute space and absolute time ruled out the possibilities of psychic phenomena, the new physics whose discoveries were such that there was an air of mystique about them seemed to admit the possibility of that which seemed to defy natural laws. The limitations of Newtonian physics had made it clear that there are realms beyond the known, and that unless we are very careful, the known could easily block the discovery of what is not yet discovered.

*The Systems View of Life:* In the Newtonian worldview there is no awareness of the essential interdependence of all phenomena. The systems view remedies this lacuna by giving due recognition to the essential interrelatedness among the material, the biological, the psychological, the social and the cultural phenomena. Where the mechanistic view creates the gravest problems for human welfare is not in physics but in health care. No doubt there are machine-like parts and operations in human body, so a mechanistic approach may be justified for dealing with problems coming from such parts and operations. But the human body as a whole is not a machine but an organism. In the evolutionary development, life had found it advantageous to have mechanistic parts and operations to further its objectives, and biological mechanisms were developed on higher principles of organization. Hence the approach to health care must be a balanced one that gives due importance to both the mechanistic aspects and the organismic aspects of health and disease.

By system is meant an integrated whole made up of parts; but though

<sup>5</sup> Published by Flamingo Press, London, 1983.

made up of parts, its properties cannot be reduced to the properties of the parts all put together. Therefore in the systems view, the emphasis is not on basic building blocks but on basic principles of organization. Relationship is of paramount importance in the systems view, and the relationship is one of mutually interdependent interaction among the various parts. The specific structures arise from the interdependent interactions among the parts. Therefore the systemic properties cannot be discovered through dissection and analysis.

A system is not a rigid structure. On the contrary it is dynamic; that is to say, it is stable though flexible. This dynamism is achieved in a system by unifying opposites through oscillation. If one is to understand the dynamics of a system one has to resort to process thinking. Understanding of a rigid structure is possible through understanding the consecutively stacked up building blocks, but when it comes to the task of understanding a system, one has to reckon with the ongoing interdependent interactions that create and sustain the system. This is a task altogether different from that of dissecting a structure to the fundamental building blocks and discovering the manner in which the building blocks are stacked up to form a structure.

If we are not to unwittingly fall back and assume the mechanistic outlook, we ought to have a clear grasp of the differences between a machine and an organism. These differences may be summarized thus:

- *Constructed x Grow(n)*: It is obvious that machines just do not grow out from the earth or the sky; they are constructed—it means an intelligence that is not a part of the machine does the construction. It is equally obvious that organisms are not constructed but they grow. How they grow is not at all obvious; in fact it is an inscrutable mystery. It could well be that there is an intelligence hidden in them, and it is the workings of that intelligence that makes an organism grow. If that is the case it would be more appropriate to say that organisms just do not grow but are grown. For the hidden intelligence points to some thing beyond that is responsible for the growth of the organism.
- *Linear Causal Chain x Feedback Loop*: A linear chain of cause and effect is what makes a machine tick. If it malfunctions or breaks down, a trouble shooter could trace the primary reason to a single point. In the case of organisms, the thing is not that simple. Organisms function on the basis of cyclical patterns of information flow setting up a feedback loop which involves a constant give and take between the organism and the environment. So when the organism malfunctions, no tracing back to a single cause is possible. Multiple factors will be involved, and each one will have a mutually reinforcing and amplifying influence on all the rest of the factors. Obviously this has very significant implications for health care—be

that of the body or of the mind.

- *Rigid x Dynamic*: The functioning of machines is governed by rigid mechanical structures. There is no scope for any flexibility there. Contrasted with that rigidity, what the organisms exhibit is dynamism. In dynamism there is flexibility, but that flexibility does not become one with instability—dynamism is flexibility with stability. This is what lends adaptability to the organism.
- *Fixed x Self-regulating*: The adaptability of the organism comes from its capacity for self-regulation. No machine, except those working on cybernetic principles, for example, the guided missile, has the capacity for self-regulation. Even if the machine has a built-in self-regulatory ability, it is a programmed one or a pre-determined one. An organism may come up with a creative solution, but a machine, even if it has the backing of the smartest computer in the world, is bound to be fixed in its responses.
- *No Autonomy x Relative Autonomy*: Because of the fixed nature of machines, they have no freedom or autonomy. Of course, no one expects them to be or wants them to be free. They are mere instruments in the hands of human beings. But the condition of no organism is even distantly similar to that of a machine, for organisms being dynamic and self-regulating have relative autonomy. The expression 'relative autonomy' is used by way of acknowledging the fact that organisms are shaped by environmental influences, and hence their autonomy is not absolute. These considerations have direct implications for the questions of human freedom and artificial intelligence both.
- *Isolated Structure x Lives in Relationship*: A machine is an isolated structure; if given the required energy it will do what it is designed to do. As it is an isolated structure, it works on the basis of the second Law of thermodynamics; things proceed from order to disorder—the energy input progressively exhausts itself. Whereas an organism is capable of taking from the environment what it needs and thereby increase the order of the organism. This process known as metabolism involves a high degree of non-equilibrium which is indispensable for self-organization. While isolated structures dissipate energy in what is known as entropy, an organism by living in relationship renews itself. But in spite of self-repair no organism can live on indefinitely; they all succumb to the deterioration and exhaustion brought about by aging. In order to overcome this, organisms have a way of super repair—reproduction that perpetuates their existence.

The mechanistic outlook will invariably overlook these differences, and

reduce the organism to the level of a machine. To such an outlook, the higher capacities of the highest organism that is man would appear as mere figments of the imagination. The mechanistic outlook had for long stymied scientific explorations of the realm of the psychic phenomena. This cannot continue for long. The developments in quantum physics have brought science to the verge of mystical spirituality. In this connection it is worth noting that Sri Aurobindo had foreseen the inevitability of a confluence of the physical and the psychic sciences: "Neither the laws nor the possibilities of physical Nature can be entirely known unless we know also the laws and possibilities of supraphysical Nature;"<sup>6</sup> A thorough knowledge of the physical can be had only on a clear comprehension of the psychic. This is so because the physical is only the gross superficial layer of reality. The gross does not explain itself; having come from the subtle, a thorough understanding of the gross naturally necessitates a clear comprehension of the subtle. "Therefore the development of new and the recovery of old mental and psychic sciences have to follow upon the perfection of our physical knowledge, and that new era is already beginning to open upon us,"<sup>7</sup> declares Sri Aurobindo.

### **The Human Energy Field**

The truth of the above declaration is best illustrated by Barbara Ann Brennan's *Hands of Light*.<sup>8</sup> This work by a former scientist associated with NASA is a training manual that details how the human energy field could be utilized for the purpose of healing physical and mental maladies. Spiritual healing involves rebalancing the energy field that exists around the body. This field, popularly called the aura, not only surrounds the body but also interpenetrates it. This energy field has much to do with both health and disease.

In order to become a healer one has to have the ability to perceive the energy field and its qualitative and quantitative differences. Unless a person develops new sensitivities, perception of the aura with its specific features shall remain in the realm of the impossible for him. The materialistic prejudices confine a person within the province of the gross, the obvious and the commonsensical, and thereby desensitize him and make him blind when it comes to the perception of the subtle. Hence one must be open minded and free of prejudices if one is to develop such new sensitivities. A critical understanding of the limitations of Newtonian physics will be of immense value in overcoming materialistic prejudices that stand in the way of admitting the possibility of extraordinary cognition and communication. If one is to develop new sensitivities, one

<sup>6</sup> *The Human Cycle*, CWSA, vol 25, 1998, p. 78.

<sup>7</sup> *Ibid.*

<sup>8</sup> Published by Bantam Books; New York, 1988.

must have belief in extraordinary powers. But that belief is not belief for the sake of belief as with most religious believers; but belief is upheld, as with hypothesis in science, to make inquiry possible. Once the reality of the aura is accepted as a hypothesis, several steps could be taken for developing new sensitivities and abilities. By sensitivity is meant the power of seeing things that are not seen ordinarily. By abilities is meant the ability to diagnose and the ability to heal.

### The Future Science

From the perspective of Indian spirituality the human power of cognition is limitless.<sup>9</sup> But in actuality it is severely limited; the limitation comes from our self-definitions that petrify as our self-image; and this image is molded, chiseled out, filed, sandpapered and buffed by various formative forces. The biological matter is given a specific shape by the cultural mold. Early childhood experiences<sup>10</sup> do the chiseling, the domestic condition continues with its filing, conventional education does a polishing job similar to the one done by sandpapering, and professional exposure might do a further polishing job of buffing to the self-image to lend it a kind of sheen. But the self-image is not the self. The self is Divine in nature. What we have at present in the world is the science of the self-image. The future science will be the science of the real self. Now that the Newtonian outlook, though not of course his physics, has become outdated, and physics and mysticism have come closer than ever before, the stage is set for daring inquiries into the realm of the psyche.

For many decades, extra-sensory perception had been a subject of serious inquiry both in the USSR and the United States of America; the motivation for the inquiry had not been scientific curiosity but military interest. However, the methodology used was scientific, which means the results obtained deserve serious attention. In the USA, the Air Force had a department to inquire into the possibilities of remote viewing, that is to say, seeing what is happening at a specified space and time without any ordinary means of communication. There is a book<sup>11</sup> on the experiments conducted by no lesser a person than the person who had been the director of the department for twenty years. The findings he reports are really astounding.

There appears to be different ways of knowing—sensual, rational and

<sup>9</sup> Sri Sankara would say that in the absence of 'seer-seen discernment' the seer limits himself to the seen, and then the knowledge too is limited; but when the seer clearly distinguishes himself from the seen, his cognition becomes spiritual and hence limitless. This is dealt with by Sankara in his works like *Drik-Drishya-Vivekam*, *Atmanatma Vivekam* and *Viveka Chudamani*.

<sup>10</sup> The Script Theory of Transactional Analysis gives a cogent explanation of the impact of the early childhood experiences of a person in forming his script which the person tends to act out and fulfill.

<sup>11</sup> Graff, D. (1998). *Tracks in the Psychic Wilderness*; Element Books Ltd., Rockport, MA.

trans-rational. Science has been using only the first two of them, namely, sensual and rational means. There are trans-rational ways of knowing, and all of them are experiential in nature. The experience might occur spontaneously, or else after prolonged practice of meditation. In the annals of Science one can read of rare instances of extraordinary dream experiences (rather than rational-conceptual methods, the acme of which is represented by mathematics) leading onto scientific discoveries. "The intellectual understanding is only the lower *buddhi*; there is another and a higher *buddhi* which is not intelligence but vision, is not understanding but rather an over-standing in knowledge, and does not seek knowledge and attain it in subjection to the data it observes but possesses already the truth and brings it out in the terms of a revelatory and intuitional thought."<sup>12</sup>

The science of the future will be one that is based more on experiential

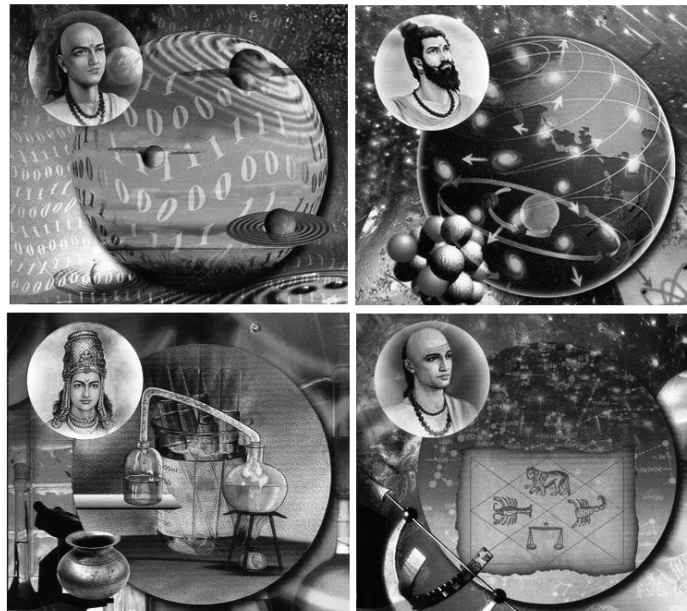


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knowing than on the other two ways of knowing. In other words, the future science will be a child of spiritual intelligence. The scientific means of nurturing spirituality is meditation that empowers a person to discern the self from the not-self. Sri Sankaracharya had called this power of discernment *atma-anatma-vivekam*. In fact there is a very small composition by the Acharya entitled just that. As Frances Vaughan has pointed out rightly "Spiritual intelligence can be developed by a variety of practices for training attention,

<sup>12</sup> Sri Aurobindo (1999). *The Synthesis of Yoga*, CWSA, Vol. 23, p. 311.



transforming emotions, and cultivating ethical behavior. These practices are *not the exclusive property of any single religious tradition*<sup>13</sup> or spiritual teaching."<sup>14</sup> But where from these practices originated is another question, and from the pointed attention given to meditation and witnessing in the Indian tradition it could well be the case that India is the land of its origin. This surmise is strengthened by the fact that Sri Aurobindo credits Bhagavad-Gita for introducing the concept of witnessing.

The one and constant refrain of Indian spirituality has been the unity beyond the seeming plurality. Psychic researchers in the West have done much striving to discover a medium like the electromagnetic radiation to account for the phenomena of telepathy, clairvoyance, remote viewing etc. In this it is evident that they were being guided by the examples of various means of communication based on electromagnetic radiation. But they have not so far succeeded in discovering any known form of radiation, and this failure forces them to postulate some other form of radiation not yet known to us. But this search for a black cat in a dark room which is not there is mercifully coming to an end thanks to the discovery of holographic phenomenon that underscores the essential unity of all.

In a hologram a lens-less photograph of a thing is recorded on a plate. When a laser beam is flashed onto that plate, the photographed object will appear in a three dimensional image. But the strangest fact is that every bit of a hologram is capable of reproducing the entire image.<sup>15</sup> This has given rise to what is now called the holographic view of the universe. The holographic view means every bit is the whole. When Sri Sankara had declared the same truth in his famous aphorism "*jivo brahmaiva na aparah*"<sup>16</sup> at least ten centuries back, that declaration was nothing more than a mystical declaration of a great visionary to his followers and simple mad raving to his critics; hence the truth of it was unknowable to one group and highly suspect to the other. But now, that a bit contains the whole is a scientific fact. If that is the case, extra-sensory perception is nothing but the bit, that is to say, the false separate self tuning into its real Self. Just as no radiation of electromagnetic waves is needed for accessing a temporarily lost memory from the subconscious mind, this tuning-in involves no carrier waves and no medium. When I, sitting in Kerala, communicate without any material apparatus with Katriona Crawford in London, I am only reaching out to my own part, and she is only reaching out to her own part.

The physics of the present day is capable of demystifying much by going

<sup>13</sup> Emphasis added.

<sup>14</sup> Vaughan, F. (2003) What is Spiritual Intelligence? *Journal of Humanistic Psychology*, Vol 42, No. 2. Spring 2002, 16-33, Sage Publications.

<sup>15</sup> Dr. Dennis Gabor was awarded the Nobel Prize in 1971 for his discovery of the holographic phenomenon.

<sup>16</sup> The individual soul (*jivo*) is none other than (*na aparah*) the Ultimate (Brahman).

beyond the Newtonian worldview in a big way. Quantum physics pictures the universe as a dynamic web of energy patterns in which the observer is inextricably linked with the observed. If the worldview is that of isolated objects made up of elementary particles, ESP would be problematic. Whereas if reality is a whole having no real separateness, what is required is the overcoming of the false sense of separateness; hence the need to “Blend in with the surroundings.”<sup>17</sup> The seemingly separate things in the universe came from One, and That One, referred to as “tat” in the Indian spiritual tradition is the only reality. When the physicist Dr. David Bohm calls That One the “implicate enfolded order,”<sup>18</sup> he is not saying anything materially different from what Sri Aurobindo meant when he wrote: “The highest and real truth of existence is the one spirit, the supreme Soul, Purushottama, and it is the power of being of this Spirit which manifests itself in all that we experience as universe.”<sup>19</sup> The world of manifoldness is, according to Bohm, ‘the explicate unfolded order.’ In this order called the cosmos—the opposite of chaos or disorder—“Parts are seen to be in immediate connection, in which their dynamical relationships depend in an irreducible way on the state of the whole system... Thus one is led to a new notion of unbroken wholeness which denies the classical idea of analyzability of the world into separately and independently existent parts.”<sup>20</sup> However, it is of the nature of mind to dream up plurality where in truth there is only the One.

Hence in The Mandukya Karika this mental proclivity is pointed out as the only cause of the appearance of the world of plurality: “As the mind itself appears as the different objects and persons in the dream state, in the waking state also the mind appears as the different objects and persons.”<sup>21</sup> The present day science is heavily dependent on the mind, and we mistakenly think that knowledge can be had only through the mind. But in fact, the knowledge of the true can be attained only when the mind ceases to be. In Indian spirituality the true is that which remains after the cessation of the functioning of the mind. This is not a theoretical concept to be treated as a subject for philosophical debate, but a hypothesis meant to be experimented with, to search and realize. The methodology for this search consists in stopping the mind from forming ideas so that mind as we ordinarily know comes to an end. Gowdapada Acharya says that “when there is no idea to form separate from the Atman, feelings of duality becomes impossible.”<sup>22</sup> The existing science

<sup>17</sup>A consciousness that is thoughtless and expanded is not egocentric, so it can blend in with everything in its surroundings. The experience of unity with the surroundings will engender a new sense of security and courage; and the fear filled alertness to detect threats to the organism will give way to a new sensitivity to see what cannot be seen ordinarily.

<sup>18</sup> Bohm, D. (1981) *The Implicate Order*; Routledge & Kegan Paul; London.

<sup>19</sup> *The Synthesis of Yoga, CWSA, Vol. 24, p. 754.*

<sup>20</sup> Brennan, B. *Hands of Light*; Bantam Books, New York, p. 25

<sup>21</sup> The Mandukya Karika of Gowdapada Acharya: Chapter III, verse 29.

is the progeny of duality; the Science of the future would be based on the knowledge of Oneness. Such a Science is not likely to need any laboratory with all its paraphernalia. Its sole lab, workshop and factory would be consciousness.

### Conclusion

The search for truth has to proceed at first from belief, technically called '*Sravana*,' to logical working out, called '*manana*,' and finally reach the truth through doing away with the mind that creates divisions where in truth there exists none. The method for that doing away is known as '*nididhyasana*.' This three-fold step is considered as pertaining to the search for the realization of the Ultimate. But the Science of the future is going to be the ultimate science; and it too has to adopt the methodology of *nididhyasana*. Quantum physics is still clinging on to the *manana* stage, but a time will come when it will have to go over to the next stage, namely *nididhyasana*. This is vouchsafed by what is happening in the area of psychology. Though neuropsychology is being used to perpetuate the reductionism that is so dear to the thinkers of materialistic persuasions, the emerging field of transpersonal psychology is showing the way for the science of the future. As pointed out by Sri Aurobindo, the science of the future shall be one that "deals directly with forces of the life-world and of Mind and so arrives at what is beyond mind."<sup>23</sup> The future scientific study will necessarily be in the nature of explorations beyond the mind.

...the future is mightier than the past and evolution proceeds relentlessly in its course trampling to pieces all that it no longer needs.

*Sri Aurobindo*

(CWSA vol 1, p. 435)

<sup>22</sup> Ibid. verse 32.

<sup>23</sup> Ibid. p.205; emphasis added.