

# Levels of Consciousness: The Role of the Heart and Pulsation

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**Abstract** The theory of the Six Main Levels of Consciousness of the philosopher Arka, is an analysis of the main levels a practitioner will go through when he or she undertakes the inner journey of Self-discovery using a heart-based meditation method such as the Intuitive Meditation (IM) method. It opens science to a new way of understanding and researching consciousness for it permits phenomenological experiences associated with the different levels, to be researched using different methods including the scientific method. As it addresses the experiencing aspect of consciousness, it cuts through the dilemma posed by Chalmers, which he terms the "hard problem of consciousness". In addition, by recognizing the thinking Mind (often associated with the brain) as the first level, it helps incorporate the work already undertaken by many scientists. The levels mentioned by Arka are: 1) M (Mind) – Consciousness, 2) SM (Subliminal-Mind) – Consciousness, 3) F (Feeling-Mind) – Consciousness, 4) H (Emotional-Heart) – Consciousness, 5) HS (Heart-Soul) – Consciousness and 6) PS (Pure-Self) – Consciousness. In a recent study using a repeated measures design, it was found that participants showed a significant shift towards a more feeling-based consciousness after learning the Intuitive Meditation Method and practicing it a minimum of five times over a 6-week period as measured by the same Feeling Consciousness Scale. This gives support to the third Feeling Mind level of consciousness Arka mentions in his theory. As the role of the heart is said to play a key role in this theory, in this article we present information regarding the heart, embryonic development and pulsation to understand more about the relevance of the heart and why it has been used as a center of attention in meditation practices throughout the ages. Embryogenesis also poses interesting but difficult questions, which, as yet, Western Science has not addressed. It also stimulates the enquiry into the nature of "consciousness" and the fundamental question: Who are we?

**Keywords** Levels of Consciousness, Self-discovery, Intuitive Meditation, Phenomenology, Experiencing Consciousness, Feeling-mind Consciousness,

Embryogenesis, Pulsation

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## Introduction

The theory of the Six Main Levels of Consciousness is based on the phenomenological experiences of the philosopher Arka and that of his pupils. It involves a profound analysis of the levels and qualities of consciousness he experienced as he turned his awareness or surface consciousness awareness inwards on his journey to discover his true nature or self. Although Arka (2013) points out that different people's experiences within each level will be unique, he also claims that the levels are common when following the Intuitive Meditation method, which is also known as or *Arka Dhyana*. This suggests that other people using this method, or a method similar to it, will experience similar levels on their journey of Self-discovery. This makes his theory testable through replication, at least from an inner experimental point of view of other practitioners. As each level is said to consist of specific qualities, it enabled scientists to investigate the different levels scientifically through questionnaires, scales and/or technical means.

In this paper, I first give some background information, which includes a brief introduction to Western and Eastern approaches to consciousness, some definitions and what I mean by *experiencing consciousness*. I then present what meditation on the Self involves. This is followed by Arka's theory, some supporting comments and a brief description of the IM method Arka developed and used to investigate his inner world. I also point to some recent research and the scientific method used to test the third level mentioned in Arka's theory. I clarify what is unique about IM and I discuss another heart-based method known as Prayer of the Heart. As this or similar methods have been used extensively by different cultures throughout recorded history, at least in the Mediterranean area, Persia and India

(Louchakova, 2004), it poses the question what is so special about the heart? In an attempt to throw some light on this, I look at various aspects of the heart including research concerning the heart, investigations involving heart transplant patients, embryology, the development of the heart and central nervous system (CNS), and pulsation.

## Background

In the West, the scientific research into the nature of consciousness is still in its infancy, with little agreement as yet on what is meant by consciousness (Block, Flanagan, & Guzeldere, 1997; Crick, 1994; Dennett, 1991; Pribram & Ramirez, 1980, 1995; Velmans, 2009). According to Grof (1985) Western science stripped the original view of Newton and Darwin of their belief in divine intelligence underpinning all of creation and replaced it with one of radical philosophical materialism. This has given rise to the belief that consciousness is a product of the brain. Disciplines that are still based "on the Newtonian-Cartesian paradigm of mechanistic science" (Grof, 1985, p. 65) are inclined to support a materialistic point of view of consciousness. Material science also considers individual organisms as "separate systems that can communicate with the external world and with each other only through their sensory organs" (p. 22). According to this approach, time is considered linear with memory somehow stored in memory banks of the central nervous system.

This model of reality is now being supplemented by quantum-relativistic physics [which] has transcended the concept of solid, indestructible matter and separate objects and shows the universe as a complex web of events and relations . . . However, the physicist has very little to say about the variety of the different forms the cosmic dance takes on various other levels of reality. The experimental insights from unusual states of consciousness suggest the existence of intangible and unfathomable creative intelligence aware of itself that permeates all realms of reality. This approach indicates that it is pure consciousness without any specific content the represents the supreme principle of existence and the ultimate reality. From it everything in the cosmos is derived. (Grof, 1985, p. 72)

This definition is very similar to that of Sen who states that in classical Indian writings such as the Upanishads, consciousness is thought to be the essence of Atman, a primal, immanent self that is ultimately identified with Brahman—a pure, transcendental, subject-object-less consciousness that underlies and provides the ground of being of both Man and Nature. (Sen as cited in Velmans, 2009, p. 1)

Arka's (2013) definition is consistent with the above view but clarifies it further by suggesting consciousness manifests itself through physical matter. Similar to bacteria that are able to survive with a complete lack of oxygen and

in high temperatures, consciousness lacks boundaries, can take any form or shape and can emerge under challenging life conditions. In spirituality, consciousness is mainly a non-physical yet powerful entity that is the pivotal point of all life and activates the senses in every living being. It is highly responsive and expressive and activates many levels, especially in humans. (Arka, 2013, p. 37) Arka's (2013) theory about different levels consciousness is intimately linked to his definition.

## Experiencing Consciousness

This background would not be complete if I did not clarify the term *experiencing consciousness*, especially for readers who have never meditated. Here I give an analogy. If we take a strawberry, we can weigh and measure it, cut it up, find its chemical composition and compare it to other fruits. In this way we can find out about many of its properties. Science is normally involved in this type of inquiry. However, until we pop the strawberry into our mouths, we do not know what it tastes like. This is when we have the experience of "strawberry." When we do this, some people might suppose that others have the same experience as they have, but really we cannot be sure of that. However, we can ask them about their experience, and although the words they give are not the experience, we might be able to get a general idea about the taste or "experience of strawberry" from different people's subjective points of view. When we talk of different meditation methods, they become the independent variable like the strawberry, but in this case we want to know what happens to the person's inner experiencing consciousness.

When different methods of meditation are investigated, the experiencing consciousness of each individual also depends on the intention that one set which makes results obtained using different meditation methods very difficult to compare (Lindhard, 2016). The intention of the IM method is the realization or knowledge of the Self, a process that is said to lead to enlightenment (Arka, 2013). This inner journey is a process, not unlike an outer journey. If we want to go to Rome, our experiences will be different if we fly or go by land or sea. Likewise if we want to go to Katmandu, our experiences will be very different from going to Rome. The inner journey is no different. To be able to compare experiences, we have to keep certain variables constant. We also have to obtain information from each individual about his or her subjective inner experiences. Only then we might get an idea if the experiences of other people share certain characteristics or qualities when following a certain method of meditation or when experiencing a certain level of consciousness.

Although, the term *qualia*, is often applied to individual subjective experience, its use can be controversial as it is often related to the description of a mental state of having an experience (Eliasmith, 2004). As I am proposing that

there are inner experiences that are not necessarily related to mental states even though for scientific comparability they have to be reported using words, I prefer the more neutral term *experiencing consciousness*. There are also other ways of expressing our experiencing consciousness; art of every form is a great testimony to this. The term *experiencing consciousness* enables scientists to ask people about their subjective experiences to find out if there are certain consistent qualities to their experiences that are consistent between different sets of people or under different experimental conditions.

## What Does Meditation on the Self Involve?

The art of meditation is an ancient one and yet its aim is as alive today as it was in days gone by. For some of us, there comes a time in our lives when we want to know the source of our existence beyond that of our surface personality. Before there were books or teachers, people no doubt wondered who am I, how do I fit into all this, how does nature work? These questions are not so different to what scientists ask, but in the past people took their questions deep inside and sat down and turned their attention inwards and waited for intuitive insights to arrive. In India, these people later became known as yogis, philosophers, seers, and *rishis* and the approach they adopted is the phenomenological approach or *inside out* perspective.

Predating modern psychology, methods were developed to make it easier for people who wanted to explore their true nature or self. These methods involved "the experimental phenomenological introspection into the living topological construct of the Self" (Louchakova, 2007, p. 82) or "serious self-pondering into the depth of the soul about ... [our] existence" (Arka, 2013, p. 29).

To help clarify the relevance of meditating on the Self and what it involves, I use the analogy of a computer. In Arka's system, he identifies the aspect of the person who undertakes the journey as the "I awareness," "I ego conscious awareness," or "I ego awareness" (2009; 2013). For me this can be compared to the cursor of a computer where the cursor is not the computer, but it helps us move around the computer enabling us to use it in various ways including discovering its different programs and inner properties. We normally shine our "I awareness" on the world outside with the help of our senses. However, in meditation, in the quest for self-realisation, we withdraw our attention and senses from "the outside world and start shining our "I Awareness" of light on our inner world" (Arka, private correspondence, Oct. 2017).

Normally we use a computer for different tasks but we do not reflect on its parts. Nor do we reflect on the fact that without electricity or power of some sort, it does not run. In

addition we do not contemplate that behind the computer, behind the energy that makes it run, is an external mind, which put all this together in the first place. Can we honestly separate all these different aspects of the computer, or are they in essence "one"? When we start reflecting on our essence or self we also start undertaking a journey, which starts revealing our different aspects or parts. However there also comes a time when we also need to go beyond what is seen and start contemplating how all this "runs" and who is behind the visible self and what is its nature.

## Arka's Theory of the Six Main Levels of Consciousness

The levels mentioned by Arka (2013) in his theory are: 1) M (Mind) – Consciousness, 2) SM (Subliminal-Mind) – Consciousness, 3) F (Feeling-Mind) – Consciousness, 4) H (Emotional-Heart) – Consciousness, 5) HS (Heart-Soul) – Consciousness and 6) PS (Pure-Self) – Consciousness.

The first level, Mind – Consciousness (M), "manifests on the surface of the cerebral region (and,) as it becomes sharpened by the cultivation of learning, it evolves into a faculty called intellect" (p. 37) and involves thinking. Subliminal-Mind – Consciousness (SM) is the second level and it is below the surface mind. We are generally unaware of this level's potential and capabilities (p. 37). The next level is Feeling- Mind - Consciousness (F) and it involves the feeling mind. "This feeling-consciousness generally prevails in the heart area and can thus be called the Heart of Heart-Consciousness. It includes an emotional faculty called intuition". (p.37) The fifth level, Heart-Soul – Consciousness (HS) "is between the deeper heart and the ultimate essential being (Soul). Here (the practitioner) experience(s) inner-space and the Mystical Universe, where the laws of physics start reversing and lead (s one) to experience many alternative realities and possibilities that give access to (one's) own soul" (p. 38). The practitioner also becomes more connected with Nature and the forces of the Universe. Although Arka claims there are other levels between these levels, the final and sixth level he mentions specifically is Pure-Self – Consciousness (PS). Another name for this level is Core-Consciousness and it comprises of "the very essence of your whole presence and of everything that you feel, think and do. It is addressed as Soul or Self". (Arka, 2013, p. 38)

Being experience based, Arka's theory cuts through what Chalmers (1995) termed the hard problem of consciousness. Arka (2013) describes the journey of Self-discovery as "a journey from the 'Rational Mind to the Emotional Heart to Pure Consciousness'" (p. 3). It involves uniting mind, heart, and soul and transforming one's past (Arka, 2013) or transcending one's ego (Louchakova, 2007).

## Mind of the Heart and Mind of the Head

The Prayer of the Heart method also centers on the Self via the heart center. In its initial stages it begins "by associating the repetition of Divine Names . . . with the somatic sense of self in the chest" (Louchakova, 2005, p. 295). However, in the "contemporary 'accelerated' form the beginning attention is fixed in the chest to access the Gnostic 'mind of the heart' ... Whence, the phenomenological analysis of the Prayer of the Heart uncovers the inner structure of consciousness within this 'mind of the Heart' as opposed to 'mind of the head'" (Louchakova, 2005, p. 295). Here we see a distinction between the thinking mind and the mind of the heart. Furthermore, she points out how "data from the focus groups show that intentional consciousness associated with the head usually consists of self-reflective, analytic/synthetic, logic based constructs as opposed to the lived experience in the chest" (Louchakova, 2005, p. 295). As such, the inner structure of consciousness described by Louchakova is consistent with the first and third levels outlined by Arka (2013) in his theory.

## Heart-based Methods of Meditation

The IM is based on three pillars; touch breath and a vibratory sound. It is also accompanied by a gesture, which guides the surface mind to the centre of the upper chest or heart area.

Methods of meditations can either go above the surface mind or below it, and the IM method goes below it. Methods of meditation that go below the mind are slightly easier (Arka in Lindhard, 2016). Another distinguishing feature of the IM method is that practitioners meditate on their deeper self with the intention of discovering their true nature or self. As stated earlier, not all meditation methods are similar, not do they all have the same goals.

Although historically Prayer of the Heart was used extensively by different cultures, science does not know much about it. "It is rooted in an understanding of the Godliness of man and the humanness of God". (Louchakova, 2004, p. 35) The ancient Egyptians, Jews and the Desert Fathers practiced it extensively. It is also close to the traditions involving Self-enquiry (*atma-vichara*) and Kashmiri Shaivism (Louchakova, 2004). The IM method also involves Self-enquiry.

## Scientific Research into the Theory of the Six Main Levels of Consciousness

As the Prayer of the Heart method takes years of training and is considered by seekers as "being complex" (Louchakova, 2007, p. 82), the IM method was chosen in a research project to find out what happens when participants

were trained to go below their thinking minds and connect with their deeper Self (Lindhard, 2016; 2017a). This research was also undertaken to start validating the theory of Arka or at least one of the levels he mentions in it.

In a repeated measures design, a significant difference at the .001 level was found between scores using a scale known as the Feeling Consciousness Scale (FCS), which was constructed for this experiment (Lindhard 2016; 2017a; 2018). The scale includes items such as feeling of unity, peace, intuition, positivity, awareness of emotions, and connection to one's inner Self, sometimes expressed as soul, inner being, or atman. The changes in score were obtained after participants attended five IM training sessions spread over 6 weeks (a total of 13.5 hours). The second time the scale was administered, several open questions were added. Statements from these questions supported and added clarity about some of the traits mentioned in the FCS (Lindhard, 2017a) and also suggested there may be a relation between increased sentience and intuition, especially in females. Due to the small sample size and that the scale is a project in development, these results are tentative, especially those related to possible gender differences. The results also only give support for the third level Arka mentions in his theory, not the whole theory.

What is also novel about this study is the way the participant's inner phenomenological experiences regarding different traits describing the quality of their consciousness, was investigated. The measure constructed involved self-reporting through participants rating their experiences after training in IM, in much the same way as scales involved with the mindfulness meditation technique (Feldman, Hayes, Kumar, & Greeson, 2004; Buchheld, Grossman, & Walach, 2001; Baer, Smith, & Allen, 2004; Brown & Ryan, 2003; Chadwick, Hember, Mead, Lilley, & Dagnan, 2005; Michael, Black, & Garland, 2016).

The construction of the FCS itself involved a series of steps, for the scale items were not only deduced from theory but also derived from interviewing eight people who had practiced the IM method for between 7 months and 2 years<sup>1</sup>. Five open-ended questions were also included when applying the scale the second time. This was to see if there were some emerging elements or factors that may have been overlooked while constructing the scale.

One of the participant's drawings after each session clearly reveals the inner journey of self-discovery is a process (Lindhard, 2016; 2018). In contrast, words, but particularly numbers, have many limitations in showing ones' inner explorations as dynamic and form part of a journey. Questionnaires or scales also have their pros and their cons. They are relatively quick to complete, economical, and usually easy to analyze (Rattrey & Jones, 2007, p. 235). But closed questions or statements may

1 For a full description of the steps undertaken see Lindhard, 2106

restrict the depth of the participant's response, resulting in the quality of the data collected being incomplete or diminished (Bowling, 1997; Rattrey & Jones, 2007).

But in spite of these limitations, this research opens new possibilities in how phenomenological inner experiences can be recorded using the scientific method, which is also quantifiable. In future studies involving meditating on the Self or the other levels Arka mentions in his theory, in addition to obtaining information about the practitioners' phenomenological experiences, it might be interesting to also include technologies like the MCG, ECG, EMG, EEG, or the SQUID to also get information from the *outside in* perspective.

## What Is the Importance of the Heart?

In his theory, Arka gives prime importance to the heart, as does the Prayer of the Heart method of meditation. Lindhard's research (2016; 2017a) supports the third level of his theory known as Feeling- Mind - Consciousness (F) which is seen as generally prevailing in the heart area (Arka, 2013). This is in contrast to the thinking mind, which is generally associated with the brain and is connected with our intellectual abilities and information we receive through the senses. These considerations pose the question why is the heart so important.

But first, to understand the connection of Feeling-Mind Consciousness and the heart, we also need to specify what we mean by *feeling*. The etymology of the English verb "feel" might be one of the reasons why some people might have a problem with relating the verb *feel* to the heart. In late Old English the verb "to feel" is "to have a mental perception," from Proto-Germanic *\*foljan* (source also of Old Saxon *gifolian*, Old Frisian *fela*, Dutch *voelen*, Old High German *vuolen*, German *fühlen* 'to feel,' Old Norse *falma* 'to grope')" (Online Etymology Dictionary, n.d.a., Feel, para. 1). The translation of the verb to *feel* into Spanish as *sentir* avoids this difficulty for Spanish speakers as the etymology of this Spanish verb comes through the Latin root *sentire* which originally meant to listen, but later came to represent all the senses (Etimología de Sentir, n.d., Sentir, translation of para. 1). This later acceptance is related to the etymology of the English verb to "sense": "to perceive by the senses,' ... Meaning 'perceive (a fact or situation) not by direct perception' is from 1872" (Online Etymology Dictionary, n.d.b, Sense, para 2).

Here we are not talking about the physical senses, but intuitive guidance, which seems to be linked to the Feeling-Mind of the heart. Arka (2013) talks about the senses below the senses or mystical senses, which are not reliant on our physical senses. It is basically that level that was addressed in Lindhard's (2016) study. After certain confusion about the term *feel* in the pilot study, I changed the wording of some of the scale items by including the

phrase "as an inner experience." I also did this, as it is the ability to feel or to sense as an inner experience that the IM method is said to awaken.

### Research Involving the Heart

As modern day science mainly relegates the function of the heart to a mere "piston-pump" (Burlinson & Schwartz, 2005, p. 1109), one cannot help wonder why many traditions have used the heart, rather than for example the liver, as the center of attention in their meditation practices.

In recent times, some scientists have begun to investigate the heart's other attributes. The heart has been found to have an intrinsic nervous system of its own, containing around 40,000 neurons called sensory neurites. This extensive and complex neural network has been characterized as a *brain on the heart* or *heart-brain* (Aour, 1991; 2007; 2008). This allows the heart to act independently of the brain, sending and receiving meaningful messages of its own through the autonomic nervous system. The heart has been found to send more signals to the brain than vice versa (McCarty, Atkinson, Dana Tomasino & Bradley, 2009). Based on a study which showed that the heart and the brain receive information before an actual event takes place, it appeared that the heart seemed to receive the "intuitive" information a few seconds before the brain (McCarty, Atkinson & Bradley, 2004a; 2004b). HeartMath has done extensive research into the different ways the heart communicates with the brain. According to them, there are four communication pathways: neurological, chemical, biophysical, and energetic (HeartMath Institute, 2016b, Heart Brain Communication section, para. 1).

### Heart-transplant Patients

Some of the unusual findings concerning heart-transplant patients raise questions for which science still needs to find answers. Between five and 10 percent of the people who receive a transplanted heart, report changes in their tastes, personalities, and most extraordinary, in their memories (Skofield, 2012). Some recipients are also able to access information about their donors (Pearsall, Schwartz, & Russek, 2005) even though information concerning the donor's identity is always kept anonymous. This information can come from feelings, dreams, and experiences.

Science as yet cannot explain these findings, however it seems that sensitivity of the recipient is a requirement in retrieving information. Where the information is stored, is still a mystery although several theories into heart functioning have been formulated (Pearsall, Swartz, & Russek, 2005; Swartz & Russek, 1997; 1998; Russek & Schwartz, 1994; Oschman, 2009). Although many scientists, such as Kandel (2007), have explored and shown how memory is stored in the brain, information from heart transplant patients suggest that memory is not only stored

in the brain but might be stored either in the heart or outside of the organism where the heart and the person's ability to connect with it, plays a role in its retrieval. As nerves from the heart to the brain and vice versa are cut during the implant operation, it seems as though this area needs to be researched further if we are really to understand more about the storage of memory, its retrieval and the possible connection of memory to the heart.

### **Embryogenesis, Pulsation and the Development of the Heart**

In this section I examine the phases the embryo undergoes in forming itself a body. Here I limit my reflections to the first 49 days of the organism's life in mortal form. As somatogenesis (the formation of a body) is possibly connected to pulsation I also highlight recent finding in how the heart as an organ is formed. I do this because spiritual traditions have always suggested that if one discovers one's own nature or self, one discovers the nature of the universe (Lindhard, 2016; 2017c). Although they were talking about the inner spiritual journey of Self-discovery, I feel the embryogenesis can also help to clarify our own nature or self.

#### **The Four Principle Kingdoms of Nature**

Looking at the process of somatogenesis of the human embryo through the eyes of van der Wal (2003/2014), takes us on a journey, which has certain similarities with the development of nature. During the first 49 days, the development of the human embryo appears to follow the principle kingdoms of nature showing reminiscence of the mineral, plant, animal and human phases, a process it shares with all human embryos (van der Wal, 2003/2014; Lindhard, 2017b). Each phase exhibits certain characteristics (van der Wal, 2003/2014), or ways of being (Lindhard, 2017b; 2017c) where each "way of being" may also be considered as a *mode of consciousness*. Here I briefly summarize the different phases and ways of being<sup>2</sup>.

Van der Wal likens the spherical form and behavior of the zygote to a "mineral" for it too has a protective outer shell and splits into ever-smaller segments on the inside. During this phase the organism is a closed system that follows the laws of matter, of physics and mechanics and can be seen as existing in space but outside of time for although it lasts a week in mammals, it is not counted in the number of days or months regardless of the duration of the pregnancy. At the end of seven days, if no new mode of being is introduced, the embryo will abort.

The next phase requires that the embryo put "down roots" - a phase known as nidation and which van der Wal (2003/2014) likens to the plant phase. This phase is "within time" and is one of expansion where the organism reaches

out far beyond its physical boundaries.

Pulsation of the primordial heart at the cranial end of the germinal disc heralds the next or animal phase. Instead of growing upward like a plant, the pulsating heart turns and begins its decent to its final position slightly left of center in the upper chest. At the same time a process known as delamination or folding, takes place, which creates innerness. Now the organism has an inside and an outside.

Van der Wal (2003/ 2014) distinguishes a fourth human phase. Although the human embryo shares "innerness" with other animals, a new impulse starts with the elongation of the brain at the end of the 4th week. This is accompanied by certain characteristics including the appearance of the neck as the head grows cranially away from the trunk. It is the capacity to become upright or vertical that distinguished humans from animals for this shifts the center of gravity, which is on the outside in animals to the inside in humans. Although humans share the upright position with penguins and kangaroos, van der Wal (2003/2014) is talking about "a balance of the head on the trunk which in turn is balanced on the lower extremities" (p. 49). This allows the human to move in a unique way, which is not shared by other animals. The center of gravity in apes is slightly to the front and to the back in marsupials; essentially the center of gravity of animals is outside and draws the animal toward the environment and earth. It is this shift that allows humans to be aware of their inner world and experience "a center in our selves" (van der Wal, 2003/2014, 49). Having a center inside can also be considered as being related to the capacity of humans to later undertake an inner journey to discover their true nature or Self (Lindhard, 2016; 2017a; 2017c; 2018a).

#### **The Development of the Heart System and the CNS**

The first indication of the heart system is the development of blood in the ectocyst, or outer egg where blood is the first functional differentiation of the mesoderm. It then flows from the metabolic periphery of the trophoblast, or extra-embryonic mesoderm, to the body stalk, which is at the caudal end of the germinal disc. It then proceeds toward the cranial end of the embryo, running alongside the outside of the germinal disk. Interestingly, blood is flowing even though at this stage the heart as an organ has not yet developed. At the central point, which van der Wal calls the "centripetal junction of blood vessels," it comes to a halt and then flows back to the periphery through other capillaries. "This point of reversal, where the flow comes to a standstill, turns about, and takes on a rhythmical character, is the first indication of the origin of the heart" (van der Wal, 2003/2014, p. 44). On the same day the heart begins to pulsate, the notochord starts to form (Moscoso, 2009). The notochord is said to play an organizing influence" in the formation first of the neural plate, which then in turn folds to form the neural groove,

<sup>2</sup> For a more detailed account consult van der Wal (2003/2014) and Lindhard (2016; 2017b)



which then closes to form the neural tube. This newly formed "neural tube" then gives rise to the nervous system (Scheibel, 1997, Appearance of the Notochord section, para. 1). The brain, which is part of the central nervous system (CNS), therefore develops after heart system has begun to develop.

### Pulsation

Arka sees the creative impulse or creative principle behind all matter incarnating into matter through the heart for, to him, "pulsation is the underlying core principle and the property of universal existence, cosmic existence and local existence" (Arka in Lindhard, 2016, p. 87). From the literature review the role of pulsation in creation, including the creation of the body, human or otherwise, is an area that has not been explored fully by science. In the comparison between the developing heart and the developing notochord, including the CNS, it was found that with the advent of the pulsating heart, the morphological ontology of the embryo mirrors the different broad phylogenetic stages of creation from worms to mammals and invertebrates to vertebrate forms (Lindhard, 2016). This comparison is based Corno, Kocica, & Torrent-Guasp (2006) research which suggests that the folding of the human heart follows the evolution of "cardiac morphology which occurred in millions of years from worms to mammals" (p. 562) and Scheibel's (1997) suggestion that the first task of mesoderm in endocyst is to "come together to form a long cylindrical structure ... recapitulating the earliest event in the transition from invertebrates to vertebrate forms, a transition which occurred at least six hundred million years ago (Appearance of the Notochord section, para. 1). As the formation of these changing forms coincide with the advent of tangible pulsation of the primordial embryonic heart, it seems as though there might be some connection. In talking about the formation of different biofields, Rubik (2008) supports this suggestion by drawing our attention to the fact that the formation of fields "might also include acoustic and possibly other subtler energy fields not yet known to science" (Rubik, 2008, p. 555). The electromagnetic field of the heart is the largest in the body and it extends beyond the body and also permeates the body, which of course includes all cells (Ben-Amar Baranga, 2010).

Vedic non-dual philosophy recognizes it is difficult to separate the force that creates the intelligence behind this force, and the universe itself.

The essential nature of the Lord is perpetual *spanda* (creative pulsation). He is never without *spanda*. Some hold that the Highest Reality is without any activity whatsoever. But in such a case the Highest Reality being devoid of activity, all this (i.e. the universe) will be without a lord or Creative Power. (Singh, J. 1992, p. 10)

This view suggests that the Highest Reality, Intelligence or Consciousness is present in us and in all forms as *spanda*

or pulsation as well as being present outside of us. As we have seen, when primordial heart starts to pulsate, folding of the three-dimensional mesoderm layer occurs which creates innerness, where the morphological development of the heart and the different organs are created in "waves" or different time intervals. Van der Wal in keeping with Blech Schmidt claims the term *mesoderm* gives rise to confusion in perception as *derm* means limiting skin and mesoderm is not a skin or border but "inner tissue. ... with a third dimension" (van der Wal, 2003/2014, p. 42). For this reason he prefers to write it as meso(-derm). Meso (-derm) supplies the proteins and collagen which are the basic building blocks of the structural components of the embryo's physical body. It seems that it is pulsation and its relationship to folding which creates a cylindrical like form which folds on itself, thus adding a time dimension to the three dimensional meso(-derm). This suggests that we live in a time bound body. As the human heart pulsates at a rate between 60 and 72 beats per minute, it seems that time as measured by the clock which consists of 60 seconds per minute, might have originally had a connection to the biological heart rate of 60 heart-beats per minute.

As pulsation or *spanda* is considered as being inseparable from the Highest Reality or Consciousness, it also seems that the pulsating heart is the organ of incarnation of Consciousness. This is reflected in the following phrase "timeless Eternal Spirit in a time bound body - a most intriguing paradox" (Arka, 2005, p. 68).

## Discussion

The approach to consciousness adopted in this paper is very different from that of scientists who have never investigated the nature of their own consciousness or self. As thinking mind consciousness is the first level according to Arka's theory, one can easily assume that this is the only level that exists. Descartes certainly did with his famous saying *Cogito ergo sum*. Although he doubted everything but his thinking and thus established he is a thinking being, he did not go deeper and question what is the fundamental nature of his "I" or self beyond his ego identity doing the thinking.

Although all humans and animals share a waking and sleeping consciousness, how can we assume that the quality and level of the experiencing consciousness in other people is the same as our experiencing consciousness especially as their experiencing consciousness, its contents and its quality are not visible to us? How do we know what a child's experiencing consciousness is like or that of a new-born baby or even that of the opposite gender? How can we know about the experiencing consciousness of other living forms or animals? How do we know about the changing quality in consciousness the embryo experiences as it grows itself a body?

By looking at our embryonic development, we have suggested that the incarnating organism will need to develop different ways of being if it is to continue to grow. This way of looking also seems to throw some light on the different modes of consciousness of the different kingdoms, where guidance possibly not only comes from only inside the organism (for example, via genes), but also from outside, enabling synchronicity of development between the different aspects and parts. This guidance is possibly related to pulsation, which becomes tangible in animals and humans via the pulsating heart.

## Conclusions

Western science generally believes consciousness is a product of the brain. Psychological theories about consciousness have not been based on subjective experiences, but those of Freud, Jung, Adler and others theorists have been based on insights obtained from their patients' experiences.

This is in contrast to the Eastern way of exploring consciousness, which is based on subjective experience. Arka's theory is based on subjective experience and it introduces a developmental aspect to consciousness suggesting that not only the quality of our consciousness might change as we develop, but that consciousness might also be first linked to the heart and then later become associated with the neural system of the brain as we develop thinking mind consciousness. This theory is therefore able to encompass Western scientists research linked to the brain, but it suggests there are other deeper levels, which are linked to the heart. It also suggests that the levels of consciousness associated with the heart are primary. This is consistent with embryology, which shows the heart system starts to develop prior to the neural system.

In a research study (Lindhard, 2016; 2017a; 2018) that complies with Western scientific criteria regarding method and procedure, a change in experiencing consciousness as measure by the FCS was shown to occur after participants where trained to go below their thinking mind using the IM method. It seems that the quality of consciousness to do with the heart is not the same as thinking mind consciousness and is characterized by feelings such as unity, positivity, connection to one's soul or self and intuition. This study supports the third level Arka (2013) talks about in his theory.

Other sources indicate that we not only have a thinking mind associated with the brain but a heart-mind associated with the heart (Louchakova 2005). The complex neural network of the heart that was discovered by Armour (1991; 2007; 2008) has been characterized as a *brain on the heart* or *heart-brain*. (McCraty, Atkinson, Dana Tomasino & Bradley 2009) have shown that the heart sends more information to the brain than vice versa. Information

gathered from the experiences of certain people who have received a new heart, suggest they can assess information about their donors through their new hearts although the *how* and the *where* this information is stored, has not get been established. But as recipients received a new heart and not a new brain and the nerves of the heart are severed during the implantation of the new heart, it suggests that memory might not only be stored in the brain but also in either the heart or outside of the organism where the heart and the person's ability to connect with it, plays a role in its retrieval. If the spiritual path requires transcending our past as suggested by Arka (2013), it makes sense to meditate on an organ, which might be associated with memory or the retrieval of memory. These comments, studies and findings suggest that the heart is more than a piston pump and might be linked to a Feeling -Mind that is different from our Thinking Mind.

Our early embryonic development when looked at through the eyes of van der Wal (2003/2014) opens us to many new insights regarding our nature and the nature of nature and the phases the human organism undergoes in forming a body. This way of looking at our embryonic development also seems to throw some light on the different modes of consciousness of the different kingdoms. As suggested by Arka, it seems that the formation of the material world including our physical bodies might be related to pulsation, which he sees as being the "core principle" behind existence. It is also possible there is a relationship between heart pulsations, embryonic folding and its relationship to time as measured in heart pulsations instead of seconds.

The considerations presented suggest that maybe we are not our bodies. Maybe we are not our past or personal history but a fragment of the Highest Intelligence, Pure Consciousness or timeless Eternal Spirit incarnating in a time bound body via the pulsating heart. This would explain why different cultures throughout recorded history have used the heart as the focus of attention in their meditation practices. Instead of meditating on the physical heart, in reality they would be meditating the Highest Intelligence or Consciousness incarnating through the pulsating heart. This is a provocative suggestion where personal inner exploration that involves overcoming one's own personal past, seems to be the only valid way to test this hypothesis to the complete satisfaction of each individual. From a scientific point of view, it seems that until subjective experiences are fully accepted as a legitimate area of inquiry by scientists, consciousness and its relationship matter and to the brain, will remain a mystery trapped in purely theoretical conjectures which are unable to certify to the complexity of our fundamental nature or self.

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