

Exploration

A Philosophy of Consciousness

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Abstract

This essay completes my earlier essays on consciousness, and ranges from what I found in *The Yoga Sutras of Patanjali*¹ by Swami Veda Bharati, and *The Sankhya Karika*² by G Srinivasan, through to my conclusions. In the past I found modern philosophy requires any definition of consciousness to provide an explanation of its subjective aspects, and the author of the Yoga Sutras mentioned above provides a basis for my explanation which I believe can be understood by a layperson in general terms of philosophy and neuroscience. Leaving aside convention and limits I hope to present an understanding of consciousness, mind and memory based on practical experience in the state of Samapatti. I am very aware that the knowledge within the two books I cite originated at a time when people had a different way of understanding reality and verified their knowledge through direct perception. My learning process will seem tedious but the fact is that I find answers piece by piece and I write in much the same way. In citing these two authors I do not claim or infer any agreement or support from either of them for the conclusions I reached in this essay.

Keywords: Nonlocal, Yoga diagram, composite sentience, memory, retained information, manifestation, manifestative cause, composite sentience, quantum potentials, entanglement, brain plasticity, manifestation.

Introduction

This discussion began in 1986 during a conversation with the late Dr Bevan Reid⁵, a cancer researcher at the University of Sydney. Some years later I read Bohm and Hiley's *Undivided Universe*⁶ and found in that book a clear relationship with Bevan Reid's concept of information in space. I had been attending a class about *The Yoga Sutras of Patanjali*, and early in 1987 I began my first experiences of Samapatti.

The first Samapatti experience came about when I was asked to see what I could do about Zac, the anti-social cat. Inviting me to sit on a bean bag chair, his owner placed Zac on my lap saying "He doesn't miaow, he snarls; he won't let anyone hold him for more than a couple of minutes, we haven't seen him wash himself in a year or more and he smells awful, ... can you do anything for him?" I held my hand over the cat and focused on the top of his head intending him to go to

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sleep. I relaxed myself and Zac went to sleep immediately and I turned my focus on this smelly cat.

Right away I had a cluster of simultaneous images in my mind; the chaotic lights and wavy lines were a surprise for me because I have never had any mental images in my life. There were many different pictures, and my first thought was they are like a few video games overlaid simultaneously on the screen. I was unable to hold any one image long enough to recognise a scene and focused on my own stillness; after about twenty minutes the chaos gave way to a tranquil garden scene. Everything I noticed about this garden seemed to be wrong; all the colours were autumn tones, no green and no blue. And there was something odd about the perspective too; the plants were recognisable, but everything seemed much larger and out of proportion. I realised I was seeing from Zac's eye level and colour spectrum. In fact I was seeing the garden as if I was Zac.

I knew I had never seen this garden before and yet it felt both familiar and comfortable. I stayed with the garden scene for a further fifteen minutes and then came back to being me. I felt he would wake up and looked at his owner to tell her Zac would wake up now. Zac opened his eyes, yawned and immediately began to wash himself. He had been asleep on my lap for almost an hour. I knew this event was a significant landmark because I had not only seen what the subject was dreaming, I had experienced his experience of his dream as he would have dreamt it, and I had assumed that the flow of information between a healer and subject appeared to run in both directions because I had been aware of two simultaneous viewpoints.

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This next experience involved a woman with a fractured leg which had been broken a year earlier. She told me a steel rod had been inserted into the bone to support the joint as the bone knitted together. Unfortunately, it hadn't knitted successfully, and the rod had been removed. Her current option was to have a bone graft and an appointment to have an X-ray had been arranged for a week's time. The X-ray would give the surgeon the information needed for any further bone graft procedure.

I sat down in front of her and looked at where she said the fracture was in her leg and wondered what I could do about it. I asked her to relax and close her eyes while I relaxed myself to focus on her leg. I closed my eyes and immediately thought the bone marrow looked like a dark mass in a distressed state. I thought I should remove the distress and fill the space with some bright energy. I opened my eyes, intending to ask her to open her eyes and saw they were already open and she was very excited.

She told me she had seen me remove some dark stuff from her leg and replace it with bright golden light. She was obviously very excited, but not as much as I was; I recognised she had 'seen' what I had only thought; moreover that thought manifested what I would have liked to

happen in her leg. In the following weeks she told me the subsequent X-ray showed some new bone growth at the fracture site.

These are two examples of what I found in the Samapatti state, and I will interpret the Yoga diagram in a manner which I believe allows me to relate Swami Veda Bharati's description of consciousness and the Sankhya Karika to my experiences in terms of the quantum states present across the whole diagram in any one moment of this fundamental process. By doing this I hope to develop an explanation of what happens in that Samapatti state and how it can assist in gaining an understanding of what is consciousness, mind, memory and the unconscious or acognitive state.

Later, in an email exchange with Professor Basil Hiley I asked how physics might describe this interaction between minds; he said the best explanation he could offer would be that of a quantum entanglement of the minds. With the benefit of hindsight I can put Hiley's explanation with what I know from my interpretation of the Sankhya Karika to build a coherent picture of the Yoga diagram as a narrative of interactions between selectively interactive quantum potentials as real information arising within a fundamental quantum process. I will do my best to develop that narrative throughout this essay.

Hiley's email response, suggesting a quantum entanglement as an explanation of my experience with the cat, seemed to clarify David Bohm's Wholeness and the Implicate Order⁷ in which Bohm talked about information infolding and unfolding in the nonlocal space. I had learned from my conversations with Dr Bevan Reid about information retained in space that we were all describing much the same sort of quantum event, and this kept me looking for a way to pull it all together. The description I found in the Yoga Sutras of Patanjali, supported by Swami Veda Bharati's Yoga diagram, provided that way as a concept but I needed to find how to translate that spiritual concept into something based on my rudimentary physics. When I saw that my Samapatti experiences could be described in terms of the Yoga Sutras and Sankhya Karika I began writing.

This present discussion is a continuation of those earlier conversations about my experiences and their explanation which I found in the Yoga Sutras. I will move between the descriptions given in The Yoga Sutras of Patanjali¹ and The Sankhya Karika²; the former being an explanation of the Swami Veda Bharati's Yoga diagram from a spiritual perspective and the latter being essentially the same explanation from a scientific perspective. I support both viewpoints from my own experiences in the state of Samapatti because I can recognise each one is explaining the same phenomenon.

Now we must take a look at the Yoga diagram itself.

My description of Figure 1 begins with Sattva, Rajas and Tamas, which are the three gunas/aspects of the oscillation which results from the descent of Pure Consciousness (Purusha) on prakriti, the undifferentiated potential in space. The final products are Mind as an aspect of Sattva, and Matter as an aspect of Tamas, with Rajas impelling both, which I understood to mean Mahat alternates between them. This ‘descent’ of Pure Consciousness into matter is central to the whole of the spiritual interpretation of Patanjali’s Yoga Sutras, in which, prior to the descent of Purusha, all three gunas are in a state of equilibrium. Patanjali tells us that when Purusha reflects on prakriti, the reflection provides a degree of consciousness at Mahat and causes the disequilibrium of the gunas. Mahat/buddhi is the first appearance of intelligence, discrimination and intellection in this moment of the process of creation. At the lower end of the Sattvic arrow we have the potential for the senses, both cognitive and active. At the lower end of the Tamasic arrow we have five subtle elements and the five gross elements which become matter.

We should note here that in a spiritual context, this space has the title of Greatest Teacher, which co-incidentally is also the title attributed to Mahat. My interpretation of this conundrum is that the whole diagram represents information-in-potential in this nonlocal space (Akasha) at every point on what I see as a diagram of quantum potentials simultaneously available in any given quantum moment. My understanding of the word ‘space’ as it is used in the Sankhya Karika is best described as mini black holes within an unmanifested substrate which is both perpetual and dynamic. Its dynamism relates to the unmanifested nature of this fundamental substrate, inferring energy with the form of a spherical standing wave. Its unmanifested state infers a quantum state which when considered as a hologram infers that the diagram represents every mini black hole which would be part of every point in that hologram. The process of manifestation is what we must consider in terms of the diagram as it relates to both of the two sources of my description.

The whole of Figure 1 can be considered in terms of the fundamental process of matter becoming atomic, keeping in mind that I am also thinking about this diagram in terms of Srinivasan’s translation of Sankhya Karika, which gives a clearer understanding of the gunas when he says that ‘*all manifestation processes were defined by one type of event and that was an interaction in three modes which are represented by the gunas. The first interaction can axiomatically be only between the first two objects*’. Please note that these two interacting objects are Mahat and any or all of the quantum potentials which are considered in the moment of an interaction.

As a point which is ‘merely a point without mass’, Srinivasan’s description of space as ‘coherent, perpetual, dynamic but unmanifest’ describes the Yoga diagram perfectly; it is a point which is a perpetually oscillating spherical standing wave in that unmanifested state. The same points exist in all of the matter which manifest, as well as the charges, fields and particles maintaining that matter. Srinivasan tells us that the gunas represent this oscillation, with Sattva being the expansive phase of the spherical wave and Tamas being its compressive phase. Rajas represents the tension between Sattva and Tamas, the stress within the wave itself.

This oscillating standing wave is able to interfere with itself, producing every possible harmonic of that fundamental frequency. Looking at the final evolutes which produce matter, Srinivasan describes the harmonics of the fundamental waveform, one of which is a collapsing state as a potential for gravity; another is radiative, inferring the potential for the fields and charges required for the transformation of energy into matter. This is the fundamental process of creation, and when considered as the process of creating consciousness it has application in the tissue, momentary charge, and elements which perform specific functions within the neural network of the brain; indeed it operates throughout the whole body in every one of Srinivasan's mini black holes which drive the actual creation process according to the Sankhya version of the Yoga diagram, but we will need to approach that realisation gradually in the discussion.

My interpretation of the Yoga Sutras in reference to the equilibrium between the gunas prior to Purusha's reflection on prakriti is in the context of creation, and when I consider this moment of equilibrium I believe it is the moment between the end of an oscillation of one spherical standing wave and the beginning of the next; the moment between the end of an expansion of the point and the beginning of its collapse. Considering Srinivasan's first interaction, I interpret his statement to mean that the two objects interacting are Mahat, (which represents the moment of equilibrium between Patanjali's gunas), and the existing potential information and context at Sattva or Tamas observed by Mahat in an interaction.

The use of the term 'observed' comes in part from the description of the process from a spiritual context where each moment or interaction would be observed by Purusha. Here we find the discrimination of the Buddhic component of Mahat, which Srinivasan has translated as a scientific context, such as making a comparison between each informational outcome of the interaction with the previous outcome. The second part of using the word observed relates to the relative absence of time in one quantum moment within the process, which in nonlocal terms provides for the retention of information in this space. I will get to the issue of the retention of information in space a little later.

To explain these points which are an example of a quantum entity having the capacity to be in a number of states 'at the same time' or 'simultaneously', I provide a simple summary of what I have hypothesised about the process and the diagram at this point in real time and develop my explanation of the process and how quantum entanglement fits into the whole concept. Because Figure 1 is intended to illustrate the potential for matter present in a nonlocal state, and that matter manifests through a fundamental process within the diagram itself, it follows that the diagram represents the process by which Energy in potential becomes matter.

1. From Einstein's $E = MC^2$ we can propose that $M = E/C^2$
2. If we assume the unmanifested energy to be a quantum potential of energy in the context of the diagram, then it is possible to view the diagram as a representation of an interaction between these potentials, the assertion being that the only interactions will be

an expression of the stress in a waveform or harmonic and the null point or equilibrium between oscillations.

3. The narrative in the Yoga Sutras gives a description of those interactions in a context written with the intention of understanding the different levels of Samadhi and validating the spiritual model of creation as it was generally understood in the Vedic culture.
4. A narrative of the process from the Sankhya perspective leads to a quasi-modern understanding of the same process in the context of a quantum entanglement as suggested by Hiley in reference to my Samapatti experiences described earlier.

The question of how one of an entangled pair of particles can ‘know’ the state of its entangled partner has always intrigued me and I can only say how I think it fits within the Yoga diagram. From my reading of the spiritual perspective of Yoga the question suggests some form of selfhood at the level of a particle, most likely a common self, carried over from a moment before a particle which had been a single entity decayed to become an entangled pair. An alternative explanation could be that the prior state of the particle has retained information entangled with individual identity, which is what happens in simple cell division.

To follow that thought we need to revisit the notion of self, or *asmita* as it is described in the Yoga Sutras. Swami Veda Bharati tells us this notional ‘self’, *asmita*, can be ‘coloured by’ *Ahamkara*, the retained experiences in mind which constitute the five ignorances given in the Yoga Sutras, namely:

1. *Asmita*
2. I Amness
3. Attraction
4. Repulsion
5. Fear of death or what I believe myself to be.

Retained information can best be understood to be the information relating to the ***who, how, what, when, where and why***, arising from *asmita* and *Ahamkara*; a context in fact, and it is the information relating an experience together with its related contexts. *Asmita* represents the whole context of an interaction because it is the information which is entangled in any experience and I have assumed it will remain entangled in the *samskara* arising from that experience. Essentially, I believe every *samskara* of an individual is entangled with that individual’s *asmita*, which means that all of an individual’s experience is available to be ‘kept in the individual’s mind’ and is made available by the information retained from an interaction with *Mahat*; this is why one thought leads to the next, and why decision making can be difficult, at times uncomfortable and at other times revelatory.

From Yoga we find that when Purusha (without distinguishing marks) reflects on the finest state of prakriti, that reflection retains the characteristics of Purusha, which are called Mahat/Buddhi, effectively a Samapatti in which Purusha is the seer and Mahat/buddhi is the subject because the whole diagram is entangled. Moreover, that entanglement between Purusha and Mahat/Buddhi is retained in this nonlocal state. These characteristics retained in Mahat/Buddhi are Satchitananda (existence, knowing and bliss); the first two being the finest matter and consciousness while the final attribute of Purusha to be realised is the universal Self. This Self, asmita, remains present throughout the subsequent evolutes simultaneously and is an aspect of the agency of consciousness inferred to be Purusha in the Yoga Sutras and is what gives Mahat its agency of consciousness. I believe this entanglement can give us another way to explain Mahat's agency of consciousness.

From my perspective of the Sankhya Karika, the question of agency must derive from the first interaction (*which can axiomatically be only between the first two objects*) which is the moment or null between successive waveforms and the potential related to that moment. Swami Veda Bharati tells us that asmita (the reflection of Purusha on matter (prakriti) is described as a '*composite sentience*' involving Mahat/buddhi, with the composite being the combination of consciousness and the potential to exist (matter) and know (intelligence). Applying that notion of composite sentience to the diagram in the context of the first creation of matter prior to any living form, it becomes obvious there must be a deeper effect of Srinivasan's '*first interaction between the first two objects*' within the fundamental process.

I believe this first interaction would relate to the beginning of a cycle of creation on the diagram, which suggests to me that the two objects would be Mahat and the retained information related to the last oscillation at the end of the previous cycle of creation. My reason for saying Mahat is the principal one of the first two objects is that in the spiritual interpretation of the Yoga Sutras Mahat represents the reflection of Purusha's consciousness, and in the Sankhya translation Mahat is the reference object for every interaction. In giving Mahat the role of reference object for every interaction I believe Srinivasan describes every cycle of the perpetual oscillation in terms of the interaction between the quantum potentials and Mahat in every quantum moment. From my point of view, this is the point at which we can begin to explain the diagram from a practical perspective.

At this point in the discussion I recognised the need to include some of the process of consciousness in my discussion of the creation of matter because it is essentially the same process. My first thought about this point was to provide another diagram to illustrate the process but on reflection I decided to use the concept of a computer program instead because we are talking about retained memory and a process which has some similarity to a computer program. From that perspective, I am suggesting that consciousness is the product of process which is

analogous to the application software running on a computer while programmer is the author/agency of the fundamental process.

I have been fortunate enough to have collaborated with Dr Syamala Hari in JCER essays on consciousness, and in explaining the analogy I used in the previous paragraph, Dr Hari used the example of a programmer writing software as a comparison for the need of a notional external agency or creator to produce consciousness from chemical and electrical activity in the brain. In my discussions with Dr Hari we realised that the consciousness we find in mind is the same consciousness present at the time of creating a memory of that item or experience. The identity of a specific memory item becomes part of the context related to the observation, the process and instrument of apprehension, the object remembered, together with its manifestative cause, which results in the simultaneous activation of every singularity/mini black hole in the observer's body and therefore the related momentary neural map which Patanjali calls a samskara. My view is that all of the quantum potential involving living forms is conscious information, not because consciousness is a fundamental of reality but because every experience is the result of these quantum interactions which produce its related samskara whose manifestative cause creates our conscious awareness.

At this point we need to examine the process of memory, as given in YS 1.11., where we find that:

A cognition is associated with and coloured by the object of an apprehension and resembles and manifests the features of both the object apprehended and the process and instrument of apprehension. Such cognition then produces an imprint (samskara) that is similar to them both.

That samskara then manifests its identity with its own manifestative cause; it generates a memory. This memory is identical in form to the same manifested identity and manifestative cause. It consists of both the object apprehended and the process and instrument of apprehension.

When the object of apprehension is primary, we call that memory. When the process and instrument of apprehension are primary, we call that intelligence.

A 'cognition' refers to something (the object) becoming known (in mind); the process and instrument of apprehension and an intellectual copy of the object creates an imprint that is similar to both, a samskara. We need to note here that *the process and instrument of apprehension and the intellectual copy of the object* are simultaneously present in that samskara. Initially, the instrument of apprehension is the senses while the process of apprehension is the knowing of what has been apprehended by Buddhi, the agent of apprehension which exists also as Mahat at evolute 1. It is presented to mind and thus 'modifies' mind and is retained as a samskara. The 'modification of the mind' comes from the manifestative cause or samskara

arising from that cognition and puts it into effect through the related functions within the neural network; this modifiable nature of the neural map is known as brain plasticity, which is the physical expression of a samskara.

The samskara combines the identity of the object together with the manifestative cause as a memory; retained information. When the object of apprehension is primary we call that memory. The 'manifestative cause' is the retained composite information which can reactivate the process and instrument of apprehension expressed as a whole of body memory through the neural system.

The term 'manifestative cause' is significant because here Patanjali is pointing out every detail of the process we must consider if we are to understand how it really works. In my Samapatti experiences I experienced the experience of the subject during that Siddhi state. I was able to know and experience a cat's dream, while in another experience the subject saw the change I thought I would like to have happen as it was happening. Given that I am unable to form any mental imagery, I was relieved to find that the subject could mentally see my thought through what must have been the same process when I watched the cat's dream.

When the process and instrument of apprehension are primary we call that intelligence.

This sentence explains the two different kinds of memory. The first kind is one in which we remember the object and experience of the observation as it was presented to the mind at the time and can relive the experience. All of this becomes the specific manifestative cause activated in any subsequent recall of that specific object and/or its context, and by that Patanjali means the object and the experience are what becomes present in our conscious awareness or mind, and we call that a memory.

In the second kind of memory one only remembers the intelligence, which is 'I saw this happening in a specific context' (I am aware of the initial experience in the mind and body; there is no manifestative cause, hence no re-manifestation of the experience). Swami Veda Bharati calls this intelligence *acognitive knowing*, indicating it is not something one knows with the mind. It is only a narrative because what was retained was the process and instrument of apprehension which only involves what Mahat/buddhi appears to retain in the actual experience and has no samskara/manifestative cause. This is the kind of memory I have; I do not re-manifest an experience; I only have a narrative of the experience.

To add to this description I quote YS.1.41. which describes the coalescence of two minds which we find in the state Samapatti state. Patanjali tells us that:

When one's modifications have subsided, his (mind's) stability on and coalescence with the apprehender, the process and instrument of apprehension and the objects of apprehension, like pure crystal (which takes on the reflection and colour of proximate objects), is called Samapatti.

In his commentary on this Sutra, Swami Veda Bharati explains that the seer's causal cognition has set, which means her/his mind is empty because all samskaras have been brought under control and are inactive, evidence that the seer is in Asamprajnata Samadhi a state in which the self-identity (asmita) is minimised. What 'the seer's causal cognition has set' really tells me that rather than having no samskaras, I do have samskaras but they are inactive. This is why the seer's mind is coloured by being in the presence of proximate objects, like the cat in my description of the first experience and the lady with the leg fracture in the second experience.

This is where the notion of a common language emerged for me; the phrase, coalescence with the apprehender, is where Patanjali brings home his point of two minds merging. What that means is that both the seer and the subject have the two individual manifestative causes simultaneously in their awareness, and the Buddhi of each can distinguish between these two; the distinctions made by Buddhi is presented to Mahat; for the subject it will be only the information apprehended by the subject which is actually the seer's stillness; for the seer it will be only the information apprehended by the seer. However, the seer will know both sets of information are present and he/she is able to know which is which. I think this word coalesce explains the phrase 'is coloured by' exactly, while the discrimination of Buddhi suggests that Buddhi knows both observations simultaneously (an entanglement), supporting the view that the process is in the quantum domain.

Considering this Sutra, we must take into account the many functions at play in the seer's and the subject's body to manifest the experience simultaneously in each. This means that the same quantum information and related process works to manifest the momentary brain plasticity of the subject's neural network and to retain that experience of the seer's cognition as her/his experience. For the seer though, all that is retained is the intelligence of Mahat's observation, despite the fact that the seer has the experience of the subject's experience at the time, and therefore the subject's manifestative cause.

Mahat's observation of the subject's experience does not contain the seer's asmita and therefore the seer does not create a samskara, which makes his memory of that event a simple narrative or statement.

In Sankhya Karika, Srinivasan tells us that when harmonics of the fundamental standing wave synchronise, their properties such as radiation, charge and mass, combine to create specific matter. This is not too far removed from Patanjali's statement, '*when there is a conjunction of a number of points without mass, a point with mass can appear*'. Such a conjunction at the beginning of a cycle of creation could combine a number of neutrons to create light; if it produced atoms of hydrogen it might have created a Big Bang. In the case of a seer and subject in Samapatti, what is produced are the changes needed to the brain's neural structure to implement the manifestative causes operating at the time. Here is another example of what I called a common language through which I knew that the cat's dream of a garden felt familiar, which I am inferring was how it felt for the cat. I make this inference supported by the fact that

this smelly cat which had not washed itself for more than a year woke up when I felt it would wake; it woke and began to wash itself as I knew it would.

My notional common language is the activation of a specific manifestative cause to produce the brain changes which I infer gave the same subjective response in the cat and me in the first Samapatti experience given earlier. In that Samapatti state I was able to know the cat's experience and my own and was able to discriminate between each viewpoint. In the second experience the situation was reversed; the subject experienced what I had thought, which is what happens in Samapatti and is generally described as a coalescence of two minds, more of which we will come to a little later.

At this point I need to explain the relationship of Mahat/Buddhi too, given that in the spiritual interpretation, Patanjali tells us that Mahat is 'merely a mark' with no distinguishing features; it is simply a presence, the subtle energy which will produce objects. It is also the individual buddhi, the faculty of discrimination, intelligence and intellection in a sentient entity. Interpreting these attributes in terms of Sankhya Karika where Mahat is part of the fundamental process, it is evident to me that the attributes belong to the process itself, producing the specific manifestative cause of each attribute as it is known/presented by Mahat in both the seer and the subject.

To explain this I turn to Bevan Reid's work as a cancer researcher⁵ where he had found and recorded that the survival rate of his cell cultures of mouse fibroblasts was consistent over a number of years. In one of his experiments designed to reveal a structure for space he introduced a 10kg of lead into the laboratory space to find whether it would have any effect on the survival rate; he found the survival rate decreased markedly in the presence of the lead. Repeating the experiment with fresh cells he found that the effect of the introduced lead on the new fresh cell cultures resulted in the same decrease in survival rate. Then he removed the lead from the laboratory space and the decreased survival rate was maintained for some weeks, confirming that the effect of the lead remained in the space after its physical removal from the laboratory space. His conclusion was that the laboratory space retained the effect of the lead, which was the mouse fibroblasts' response to the presence of lead in that space and he said that what was retained was the information relating to the mouse cells' response to the lead, the manifestative cause.

Now I will explain what I mean by retained information.

The whole Yoga diagram represents quantum states of information as potentials which become flexibly entangled in a quantum moment within the fundamental process. I said earlier that the diagram represents every singularity point or mini black hole throughout the body. This includes the brain mass which is a flexible network of neural structures capable of reflecting that flexible entanglement of quantum potentials in the nonlocal state. The body's sensory system communicates with the neural network and vice versa to produce the effect we call conscious awareness.

In the Sankhya Karika Srinivasan tells us that *“while laboratory instruments emulated all the five senses, they could not imitate nature’s own instrument the brain, which was the core that maintained all forms of life. Sankhya proves that the two halves of the cerebral system were a sensory signal multiplexing instrument, Buddhi and Siddhi, based on the same interactive Guna qualities of space. It was indeed the most magnificent instrument to detect a null current or equipotential state. The brain, detecting the Moolaprakriti (singularity point) stress currents as an imbalance in the potential of the two cerebral lobes, transmitted its difference through the (eye of wisdom) pineal gland to the lower spinal plexus that magnified it. It was an experienceable signal, the much spoken about Kundalini current. On receiving a human query, the two unbalanced cerebral lobes went on a furious search till they reached the balancing point of a null Moolaprakriti current. On receiving that answer, the human gave a sigh of relief, demonstrating his utter satisfaction. That process signified the symbolic 'OM' state”*.

In the Yoga Sutras the needed external agency required for consciousness is Purusha which reflects on prakriti. Patanjali tells us that this reflection is Mahat and is ‘coloured by’ Purusha’s innate consciousness. My understanding of this external agency from the Sankhya perspective is quite different. When we consider creation in the first instance such as might exist at the end of a cycle of the universe, Patanjali tells us that Mahat/buddhi is ‘merely a mark’, making the retained information the equivalent of a zero for the information related to any created matter at the end of a cycle of creation. Bearing in mind that we are discussing a fundamental process which creates matter and consciousness, the term used in the Yoga Sutras which relates to the potential to create is ‘manifestative cause’. This retained information, as a potential to create, is the ‘second object’ in the first interaction and provides me with a rudimentary idea of how the process operates in the quantum state prior to the manifestation of matter.

What we need to remember here is that this manifestative cause represents both the object being remembered and the context of that moment, which will include the immediate space and circumstance. In 2005 I read a report in *New Scientist*⁴ of Madeleine Ennis’s experiment designed to debunk homeopathy. In her most recent paper, Ennis describes how her team looked at the effect of the ultra-dilute solution of histamine on human white blood cells involved in inflammation. These ‘basophils’ release histamine when the cells are under attack. Once released, the histamine stops them releasing any more. The study, replicated in four different labs, found that diluted homeopathic solutions ‘worked just like histamine’. Ennis might not be happy with the homeopaths’ claims but admits that an effect cannot be ruled out.

So how could it happen? Homeopaths prepare their remedies by dissolving things like charcoal, deadly nightshade or spider venom, in ethanol and then diluting this “mother tincture” in water again and again. No matter what the level of dilution, homeopaths claim, the original remedy leaves some kind of imprint on the water molecules. Thus, however the diluted solution becomes, it is still imbued with the properties of the remedy.

You can understand why Ennis remains sceptical. And it remains true that no homeopathic remedy has ever been shown to work in large randomised placebo-controlled clinical trials. But the Belfast study (*Inflammation Research*, vol 53, p 181) suggests that something real is going on. ***“We are”, Ennis says in her paper, “unable to explain our findings and are reporting them to encourage others to investigate this phenomenon. If the results turn out to be real,” she says, “the implications are profound: we may have to rewrite physics and chemistry.”***

Reading this report again I can see in hindsight that space in this context, or specifically the singularities within the space within the water molecules, contained information relating to the ‘manifestative cause’ or memory/samskara which resulted from the quantum interactions present when histamine was added to what became the original tincture prior to its dilution. Any subsequent examination of the diluted solution with the intention to assess any evidence of histamine would activate that memory of histamine in the water molecules, demonstrating the whole context of the original quantum interactions being retained within that context. It is the same kind of quantum information present across the Yoga diagram which I have described in relation to Srinivasan’s interaction.

The difficulty for science and philosophy is that the quantum interactions exist as retained evidence of the interaction when the original histamine was added to the original water. That interaction involved the histamine, the water and the space, in which the water and histamine interacted as a context, and any of that water plus the water added for dilution maintained the original context regardless of the quantity of water added. This same difficulty exists for anyone attempting to define how conscious and mind operate in the brain in terms of what is currently measurable. One attempting to define the retained information from a spirituality or science viewpoint would add that disciplinary asmita to the context, making any explanation invalid.

Considering the Yoga diagram as a set of quantum information interacting within itself to create matter and taking the interaction to be the result of the perpetual oscillation, my view is that the process is something similar to Wheeler’s³ quantum foam in that quantum information shuttles back and forth across the interface of the virtual and real states if that is what really happens. Alternatively one could say the process is a switching between moments of memory as quantum potential and at the end of the process we have a quantum manifestative cause of matter, living or inorganic.

In his explanation of the Yoga diagram, Swami Veda Bharati makes it very clear that the phrase, ‘in the presence of’ is fundamental to understanding the Yoga diagram. Applying this importance to every part of the diagram it becomes clear that every one of the singularities is in the presence of its adjacent singularities and will be interacting with them, creating the equivalent of what is a samskara, inferring that space itself creates its own memory.

I think we can take that point further and say that space itself is cognitive and this would be another supportive element for the composite sentience of entangled particles before they have

participated in an event which would obviously be an interaction. I think Bohm and Hiley had already worked out this cognitive aspect of space before they talked about ‘hidden variables’ in their book, *The Undivided Universe*⁶.

Once again, we have reached a realisation which adds to our understanding of the fundamental process which we can expand to include life as a form of chemistry which is dependent on quantum interactions supported by retained information. I could take this point further but this is an essay, not a book, and I will leave it there. Suffice to say that as life and its replication became more complex, the information needed for sustainability of the form manifested possibly as RNA and DNA or earlier precursors; that is a story for someone well versed in those subjects.

Using Srinivasan’s brain model from Sankhya Karika I can attempt my explanation of the quantum interactions. I believe that Buddhi and Siddhi are representative of Mahat interacting on the Yoga diagram with the quantum states present during each step of the perpetual oscillation. When Mahat is ‘in the presence of’ (observes) information related to a momentary context (a samskara) it knows all of the retained information related to that samskara. That information and context may relate to many experiences of that particular self or just the present moment. In the model above, it may arrive at a null point or not, depending on the outcome of the intelligence arising from Buddhi’s discrimination and intellection. A null would have Buddhi indicate the information (samskara) regarding an outcome and manifest recognition of some relief to associate that relief and the information as a new samskara. If there is no null detected the process would continue to examine the samskaras related to the question, creating uncertainty, fear, depression, fight or flight depending on the number of samskaras and the related responses related to these samskaras.

Now I will try to illustrate the process itself with words rather than a diagram.

1. Given that Mahat is ‘merely a mark’, then in terms of the Yoga diagram, Mahat is a fundamental which I will call, i , an imaginary number.
2. I am assuming that any interaction will be made in terms of the relationship between i and any of the quantum states on the Yoga diagram representative of the retained information (memories) in a given moment.

At the end of the previous cycle of creation there would be no matter present, so the first iteration of the next cycle will have i in the presence of no matter, which produces $(i+0)$, the samskara for the creation of matter. This relates to Patanjali’s statement that Mahat has no distinguishing mark, merely a mark, in this case a presence of nothing; I am sure a mathematician would have a name for this state.

The next interaction is between i and $(i+0)$, which produces the samskaras related to the manifestative causes (the gross elements for the creation of matter). Looking at the Yoga diagram in terms of Srinivasan’s statement about the brain, I am inclined to relate this to Rajas

which represents the tension between Sattva and Tamas. When considered in terms of creation, $(i+0)$ can be the manifestative cause for hydrogen or light depending on which creation story one might be considering in that moment. The point being that $(i+0)$ is the quantum potential for manifesting an atom of hydrogen or photons of light. It would also produce the clumping together of the atoms produced, creating gravity as a force which would be present in this new context. Literally, we have a 'manifestative cause' creating real matter from a quantum process in which $(i+0)$ is the memory or retained information of an earlier iteration of creation from the earlier creation.

This same process produces consciousness but rather than $(i+0)$ we have i + the samskaras related to the electro-chemistry of life available to the senses, + the sensory experience which manifests as consciousness, + asmita/Ahamkara, + everything with a relationship to a specific living form (self or DNA or mind) as retained information in the quantum state which manifests its material self. All of the '+ ...' information are contextual entangled potentials related to that moment and can include related and or all similar experiences which are relevant in that moment and space.

And of course it is not quite that simple; to understand what is going on we must take into account that Mahat represents composite sentience of the unmanifested state. I would say that prior to the creation of the first matter, every singularity/Moolaprakriti in space is in the presence of the same zero and can be considered to be i . This suggests a possibly novel thought of relativity in which each singularity bears a relationship with every other singularity, a relationship which has been called asmita. In the context of a human this relationship can be the individual identity mentioned in YS. 1.11. and will be part of that individual's samskaras.

This takes our consideration of the Yoga diagram to another level of complexity; it also provides some understanding of the paranormal event of bilocation. Two years ago I read an article in the Weekend Australian by journalist Nicholas Rothwell who quoted reports by the early anthropologists in outback Australia of such an event. In his article Rothwell described reports by two of these scientists in which each had documented a conversation he had with an indigenous elder. When they met up with each other weeks later and compared their notes they found they had described exactly the same conversation with the same elder at the same time on the same day. Their records showed they was at least some hundred or miles apart at that time. I am suggesting that particular elder was able to perform Samapatti as an action at-a-distance simultaneously with two subjects.

The point I want to make here is that our individual identity as a context will always have a relativity component within the composite sentience of Mahat, and that relativity component will include a spatial configuration such as the one mentioned in Bevan Reid's experiment with the mouse fibroblasts in the present of a 10kg lump of lead. That spatial component will be part of the space in which Dr Ennis mixed her histamine solution prior to its dilution. Little wonder that sensitive people can be uncomfortable in a space where a massacre had taken place, often a

decade or century after the event; like Ennis, we all need to rethink about entangled information being retained in space because that retained information already has its place in the definition of quantum entanglement.

At times a person can have a subliminal recognition of a place without any knowledge of the reason why that place feels like it had been known in the past; we call that feeling *déjà vu*. These intrusions of quantum information have been recognised by physicists in terms of a particle ‘choosing’ a path in an experiment. John Wheeler³ called the calculation of the choice which Richard Feynman had assumed to have been made by the particle a ‘sum over histories’. My view is that it was the presence of the relativity of the information within the singularities of the whole location and its participants and the experimenter’s desire to know which path would be taken and how it was chosen.

I do not feel the need to expand the diagram of the fundamental process; instead I need only to relate that process to the same 5 subtle elements and 5 gross elements (bhutas or tattvas), earth, water, fire, air and space which can be understood to be the quantum manifestation of the charges, fields, particles present in manifesting an atom of matter or charge in the neuronal system, and is why I used the term brain plasticity earlier in the essay. In terms of consciousness, these quantum elements manifest as the network of connections in the neuronal structures of the brain; there and how it is that quantum potential as the manifestative cause becomes matter. The actual experience of our awareness of what is experienced as mind is the conscious content related to that experience. In other words, we remember the conscious experience ‘consciously’ as now, based on what was spatially relative in that moment.

We can use this model of consciousness to reconsider an experience in Samapatti; here the seer’s mind is still, meaning she/he has no active *asmita* to provide a sense of self. In that state the seer’s mind is ‘coloured by’ whatever he/she is focused on to the extent it takes on the same manifestative cause present in the subject’s mind, hence the seer ‘knows’ what the subject is feeling in the same way that I knew the cat’s dream. At the same time the subject ‘knows’ the seer’s stillness, and in the case of the lady with the leg fracture, was able to experience my thought from her own visual perspective (a *samskara*). This is why the Yoga student mentioned earlier from Srinivasan will re-experience the lesson given by her/his teacher when the lesson is recalled while the student is in the *Siddhi* state.

Putting this Sankhya model into a general perspective of the cognitive mind, I think that Swami Veda Bharati’s explanation of YS 1.11 can be interpreted as a description of the stream of conscious which we all experience. The process remains the same and Mahat will still be represented by *i*, what changes is the introduction of the term cognition. My view is that cognition is the composite sentience which we know as our conscious awareness. The sentience comes from Mahat, which we can regard as a seer in Samapatti with the body, or, as Swami Veda Bharati said, Mahat is in the present of the body, which means Mahat is coloured by the body’s momentary experience.

I know from my direct experience in Samapatti that the seer, Mahat, can have two simultaneous viewpoints; that of the subject and that of her/himself, with the Buddhist intelligence from each viewpoint known and the clear distinction of which is which. The subject in Samapatti will know Mahat's viewpoint without Buddhi and believe that as his/her own experience and this is what becomes the cognition, with a composite sentience based on the subject's asmita.

From that point the subject's samskara of that cognition will evoke her/his own related experience or experiences and her/his Mahat will provide further cognitive moments which become a stream of consciousness. Of course, this stream does not run as fast as the creative process; its progress is limited to its own process of considering every related samskara and its effect of the body through the brain manifesting each memory as a manifestative cause. I would describe this process as samskara → cognition → samskara → cognition

samskara → cognition → samskara → cognition

I could have placed the words and arrows around a circle but that would be misleading; the fact is that each thought is observed by Mahat and recognised by Buddhi, whose cognition elicits any number of related samskaras, comparing each against the observation by Mahat. The most relevant elicits any number of its own related samskaras, and the process continues. The process described is what happens in the waking state. During sleep the samskaras presented to Mahat and the discrimination of Buddhi become less related to the current moment because the composite sentience is disrupted as each part of the body is responding to every local singularity. Think of the cat before Samapatti, when there was evidence of multiple samskaras all activated simultaneously to create the chaos I observed in Samapatti. When the cat finally responded to that state it had suspended its entrenched sense of self and was able to experience my stillness. It 'slept' undisturbed in a physical sense for almost an hour; on waking it had reverted to a way of being related to an earlier time in its life.

The last point to note in this discussion is about the unconscious state. In other discussions I had said this is about Mahat and Buddhi, and that the unconscious state is what is mentioned in the final statement in YS 1.11. The reason this state is regarded as being unconscious comes from the fact that Mahat is 'merely a mark' which means that it does not create any samskaras. In practical terms, this leaves Mahat without any means of manifesting consciousness and may be a possibly valid demonstration of why there is a time lag between a brain signal to respond and the response itself.

In my effort to understand this aspect of me I had thought I have an almost non-existent working memory, and obviously that is not the case. It is simply that since I do not create samskaras I do not remember the whole moment, only the intelligence arising from that moment. I have no stream of connected thoughts, which is why my answers to a question may seem lacking coherence; the thoughts do connect eventually, but the time of that connection is quite variable. The reason why we are not conscious of the acognitive aspect of Mahat is that this troubling

aspect relates to Buddhi. We become conscious of Mahat's cognition of Buddhi's discrimination used to extract the samskaras relevant to an interaction, question or observation, and this discrimination takes a finite amount of real time to manifest each moment of a memory in the body/brain while Buddhi discriminates to reach a final answer. Mahat's intelligence therefore becomes apparent after Buddhi has provided an answer to Mahat and the selected samskara or memory becomes known by Mahat as a conscious memory. This realisation about the unconscious Mahat might provide food for thought about mental states in general and I will leave that to the experts.

For me, the whole question of consciousness is not quite as simple because I have become 'established' in this Samapatti or Siddhi state or was simply 'born that way'. I certainly didn't acquire this state through meditation and study with an accredited teacher. What I can say from direct experience is that I don't have the first kind of memory; mine is of the second kind. This leaves me with this relatively empty mind which does have the normal visceral experiences when they are happening but lack any visceral component when I remember anything. Mostly I am in the same cognitive state or unconscious state of Mahat and have managed to get by with limited information at hand because there is no manifestative cause to inform me in the same way every normal person can operate.

I am intrigued by the role of context as it plays through the common language. We all know what we can rely on so far as other people are concerned in a general sense. In this essay I have drawn from two different sources, one in a spiritual context and the other in a science context but each are translations of the same word. For example, the Yoga interpretation of (Sattvic) the expansive phase of the fundamental oscillation is one of illuminative, light and expansive; the Sankhya interpretation relates to the stress present in that singularity/mini black hole during that expansive phase. Both are descriptions of the information in the same quantum diagram. It reminds me of the Inuit having over seventy words to describe snow, but I think that is only how a western mind might understand it. More likely is the context of the snow being described; it can be snow falling, wind-blown, wind-shaped after settling, fresh snow, old compacted snow. The reason for many words for snow is really obvious if we realise each word represents a context. The same goes for samskaras as the manifestative cause related to a specific memory and its context.

I think composite sentience is present in schools of fish, flocks of birds and wild animals collectively avoiding predators, but I think it goes further than that. A new-born infant has a brain, relatively but not quite, a blank slate. Until its birth the infant's brain was part of the mother's body and would have acquired samskaras and memories of the mother's experience during gestation through the same entanglement mentioned earlier in relation of cell division. After partition, the baby's brain would lack that built-in entanglement connection with its mother's asmita, and its now empty 'mind' would place it in the same state as a seer in Samapatti. It now has a Samapatti connection to its mother's asmita because it 'experiences'

mother as 'me' and can be 'coloured by' those minds around it in the same way its mother is coloured by them until its own *asmita* or a sense of self develops during the first two to three years.

As I consider Srinivasan's brain model I can agree that the null between the two brain hemispheres would occur in the bliss state of *Samadhi*, but I believe things would be quite different in an everyday sense. Most people can be aware of their momentary mind state and the stream of consciousness which pours forth as each thought elicits the next thought. I can see how depression as a dominant *samskara* would be present in that stream in the same way that love and its associated thoughts can dominate our mind. But it is in the decision process where this model can inform us of the way making a decision can be both time consuming and difficult. This is because the issue at hand will have so many related memories, all aspects of *asmita* mentioned earlier. Each related memory can be felt in the body along with its associated pain or pleasure as we are drawn to a potentially negative or positive personal or collective outcome.

From my own experience in *Samapatti*, especially that experience with the cat, I have come to the view that there is a common universal language manifesting as common manifestative causes. These causes would have been learned by the first forms of life and shared in the common memory before differentiation of the forms. We have seen how some mammals have become domesticated by humans, and in the case of Elsa the lioness in the *Born Free* story and movie even an animal as fierce as a lioness can express that same common language. What I do know from experience is that commonality is present in the *Siddhi* state of *Samadhi*.

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