CONSCIOUSNESS AS REFLEXIVE SHADOW

An Operational Psychophenomenological Model

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Abstract:

Starting from the position of Searle's critique of theories of consciousness cast in an objective ontological frame and using James's notion of Radical Empiricism, an ontologically neutral, operational notion of conscious experience (awareness) is developed. This empirically based model incorporates a systems approach to conscious states, but eschews duality and unnecessary ontological ascriptions as found in many other theoretical proposals. The model is, in effect, non-epistemic and avoids the usual category error implicit in neurophysiological or quantum physical reductions. It does this by casting all human knowledge as experiential creations arising from operationally generated reflexive attention. From this point of view both objective and subjective ontologies are understood to be explicate constructs of an experiential implicate order.

INTRODUCTION

The philosopher John Searle is insistent that we cannot reduce the "subjective ontology" of conscious experience to the "objective ontology" of materialist science [1]. He argues that any attempt to do so obviates the very essence, or *qualia,* of the subjective, thereby leaving no "consciousness" to study. The position taken in this essay follows on from Searle's assertion by arguing that consciousness must be understood as being like a Kantian "thing-in-itself" and thus not directly knowable as either a "subjective" or an "objective" entity. This also is supported on logical grounds by White who argues that it is conscious experience which becomes an epistemic entity as something we know and consciousness is an inference made from that "knowledge" [2]. Thus, it is arguable that, in a scientific sense, the only reasonable remaining task for those interested in consciousness is an explication of the processes of conscious experience (or awareness) in terms of those mechanisms appropriate to its own *apparent* ontological frame.

In support of the above position it can also be argued, again on logical grounds, that all empirical data and hence knowledge for human beings (and we are certainly addressing only human knowing in the activity we call science), whether classified as objective or subjective, is mediated through the experiencing and hence subjective person and cannot be located elsewhere in any final objective sense.

Max Velmans argues an even more radical position:

> …the contents of consciousness encompass the entire phenomenal world (produced by a reflexive interaction of perceptual processes with entities and events represented by those processes). This world of 'phenomena' contains not just ephemeral thoughts, images, body experiences and so on but also what we normally think of as the external, 3D 'physical world'. In short, the physical world (as experienced) is part of consciousness; it is not apart-from it. [3, p. 20] (See also Velmans [4].)

Therefore, the assumption in any theory of consciousness of the primacy of a directly apprehensible consciousness as objective neuro-process or as thing-in-itself existing *per se* is untenable just as it is for all objects of scientific study. Such objectified inferences are better understood as derived from human experiential knowing wherein certain *qualia* are given objective ontological status while others are understood to be subjective depending on context and learning. From this perspective so-called objective knowledge becomes "intersubjectivity" which is mediated through the interpretive experiential frame of linguistic and other signs. This, in effect, was the insightful position taken by William James in *Radical Empiricism,* his final statement about consciousness, published around the time of his death [5]. More recently, David Bohm [6]

attempted to unpack this notion in terms of what he calls 'explicate linguistic metaphor' as being the source of our notion of an 'objective' ontology.

The overall position being advocated here can be thought of as a methodological stance appropriate for the conduct of consciousness research which is, in effect, ontologically neutral [7]. This approach does not claim to be above or outside of all ontological positions, because that, too, would be such a position, but insists that we recognize the experiential foundation on which all knowledge-making is based. In recognizing that all ontological assertions are, in fact, inferences from experience we can be alerted to the need to take sufficient care not to insert any crypto-ontological assumptions into either the research methodology or final descriptions of consciousness which may undermine the phenomenon in question through an erroneous categorical reduction.

RADICAL EMPIRICISM AND THE REMOVAL OF EPISTEMIC CONSCIOUSNESS

In his final statement concerning the nature of consciousness William James suggests that it does not exist but that we must look to the "pragmatic equivalent in realities of experience" [5, p. 4]. According to James

> there is only one primal stuff or material in the world, a stuff of which everything is composed, and if we call that stuff 'pure experience', then knowing can easily be explained as a particular sort of relation towards one another into which portions of pure experience may enter…The instant field of the present is at all times what I call the 'pure' experience. It is only virtually or potentially either object or subject as yet. For the time being, it is plain, unqualified actuality, or existence, a simple *that.* In this *naïf* immediacy it is of course *valid;* it is *there*, we *act* upon it; and the doubling of it in retrospection into a state of mind and a reality intended thereby, is just one of the acts. [5, pp. 23-24]

This seems to be an attempt by James to remove not only Cartesian Duality, but any final Kantian thing-in-itself as referent for the experience of objective things or subjective states. Sartre, in his classic critique of Husserl's requirement of a "transcendental I" (the phenomenologist's thing-in-itself) as being necessary to achieve the *epochè,* follows a related line of reasoning when he suggests that intentionality is consciousness itself [8, 9]. In arguing this position, he is declaring consciousness to be a "backward cast shadow" of the contiguity of remembered reflected awarenesses experienced as part of self-reflection in the present. Although James seems to put all things, states, and knowledge on the side of experience, Sartre puts them back out onto the "object" [5]. In either case both positions point us to the unique reality-making quality of intentional conscious experience and appear to suggest that it is here that we should focus our attention in any systematic and scientific exploration of consciousness.

In the conceptual hands of many current scholars and scientists, consciousness often takes on the qualities of being a "thing" because of the difficulty of defining it without reference to something else.[1] That something (brain, cosmos, etc.) usually turns out to be, on closer inspection, a linguistic metaphor or conceptual analog developed through learning and grounded in the syntax and semantics of language. Language not only derives its implicit epistemology from our commonsense notions of time, space and objects, these notions are embedded *in* language which implicitly feeds them back to us through the structuring of our perceptions of the world. Consciousness, rather than being a place or thing would appear more likely to be a hypothetical construct arising as an inference made from the conglomerate of experiential functions or operations associated with knowing. From this analysis consciousness is definable only by reference to its states, behaviors, experiential "contents", and manifestations in awareness rather than by reference to places, things, or objective processes.

Supportive of the above assertions about consciousness, White puts the proposition that "conscious experience" and "knowledge" are not logically the same [2]. If this is the case, any attempt to absolutely locate consciousness as an object of our knowledge must be denied. Consciousness and knowledge can only be understood, therefore, as *metaphorizing* acts of retrospective self-reflecting experience and verbal report. It remains for us to recognize that our entire formulation of the "world", including the supposed brains which structure it, generate consciousness, and "house" knowledge, is no more than the metaphoric activity of the verbal operations of reflected conscious activity.[2]

CONSCIOUS EXPERIENCE AS THE OPERATIONAL SOURCE OF EPISTEMIC ENTITIES

Typically, we know and hence objectify things (a chair, for example) when we become aware of qualities as given by a confluence of two or more of our sense experiences registering certain previously known *qualia* in a particular order that, from past experience, we have learned to regard and label as a "chair". It must be emphasized that the difference between a "real" chair and a

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[1]Daniel Dennett's recent work is typical of this sort of naive reductionism [10]. Although he is somewhat cagey about where in the brain consciousness is believed to emerge, it is still, more or less, an epiphenomenon of brain function.
On the other hand, this issue has sometimes emerged in the form of an argument as to whether or not a self-existent, contentless consciousness is possible. Sartre [8] believes this is not the case, whereas some scholars, like Almond, who write on mystical experience, assert that this is possible [11]. This notion of self-existent consciousness is the seed issue raised by James in the latter part of his life when he opted for a Bergsonian 'radical empiricism' and rejected consciousness *per se* [5].

[2]The terms "reflected" and "self-reflecting" refer to the act of one's awareness of being aware.

hallucinatory one is in the givenness which arises for the former as a result of the confluence of sensory consensus, social verification, and intersubjective consensual validation. Thus chair is known as and through a *confluence of experiential operations.* Following on from this, if a person is asked how one knows that something is a chair, such a person will, in all likelihood, take the questioner through the processes of creating both types of confluence (sensory and social) and then label the result of these maneuvers a chair. In other words, it is the total experiential activity and awareness of *doing* (signing) that "creates" for anyone a particular chair, relates it to an already developed "internalized" concept and memory of chairs and, finally, through language and gesture completes the operation by intersubjectively sharing that *doing* with others. It is thus the totality of these experiential operations which gives the chair its social confluently derived objective status as an epistemic entity.

In a similar manner, our sense of an absolute separate "self" arises as the result of *confusing* what appears to be a dialectic or tension between two separate epistemic entities (implying two fundamentally different ontologies) with the experience of two different experiential qualities *(qualia)* appearing simultaneously but generating opposite beliefs regarding their sources. This occurs as the result of the creation of multiple "forms" from a single experiential source, while remaining unaware (reflexively) that both entities are experiences only.

Hans Köchler appears to be positing just such an operational epistemology when he argues from the position of Heidegger's existentialist interpretation of the subject-object dialectic [12, 13]. Köchler's notion of conscious experience includes ever renewed acts of reflection upon itself which effects an infinite regression of self-consciousness thus creating a division which separates an exterior field from an interior field.

> This leads to the insight into the interdependence of subject and object. For the elucidation of that which the 'world' is - from which the subject 'man' seeks to understand himself - man sees himself referred to himself. He must grasp himself, in order to understand the 'world'. At the same time, he sees himself referred to the 'world' if he wants to determine his own 'self-being'. The result of such transcendental reflection is the insight into the interdependence of 'ego' and 'world' (subject and object), which manifests itself in the concrete 'Being-in-the-World'. 'Self and world do not allow separation, but are only polar limit-concepts within *one* Being-in-the-World. [12, pp. 276-277]

The instantiation of a consciousness "self" which, when reflected, I call "me" is, in its "enfolded" form (viz., David Bohm [6]), contiguous with the consciousness I call "other" and, in fact, the "other" is inseparable from my "me" prior to both of their metaphoric "explications" or

"unfoldments". It is our ability to intend the continuity of our "local" experiential consciousnesses taken over time (our sense of abiding self) which gives rise to the explicate me as well as the explicate other. This other gives the impression of being in opposition when in the unfolded state because, like Sartre's explication of the transcendental ego, it is a projected shadow of the "doing" of intending "away" from the shadow we call "self" [8]. At the "implicate" level [6], however, this "self" (prior to reflection) is indistinguishable from the "all and everything" of unreflected experiential consciousness.

CONSCIOUSNESS AND OBJECTS AS INFERENTIAL CONSTRUCTS

What, then, is a chair, a person or consciousness? To stand outside and apart from human knowing in order to find any object or state is, as seen in the above discussion, implicitly contradictory. First, we cannot stand outside what we are -- our "human-knowing-reality" -- and second, to do so (if it were possible and it is not) would require positing some other entity or awareness transcendent of ourselves, which would still leave us in the original epistemological paradox and the need for yet another meta-level in order to get outside of the previous "outside" position leading to a vicious infinite regress. People, things and states only can be known, then, as a constructive process of conscious awareness through the operations of sensing, perceiving, behaving, cognizing, feeling, etc. This analysis does not obviate objective existence but offers a more parsimonious description for our experience and knowledge of objectivity, in a similar manner to Einstein's eschewal of the Ether in his explanation of the Fitzgerald-Lorentz Contraction [14]. What is being suggested is that the ontological notions of objectivity and subjectivity are superfluous and should be suspended together with the notion of consciousness as a viable focus of study. What remains, then, is conscious experience, or the processes of what was originally mistaken for the supposed entity, consciousness.

To summarize thus far, it is being argued that consciousness, and its objects, are inferential entities derived from the retrospection we call knowing and, in essence, they gain their epistemological status from *qualia* alone which must become the focus of any useful consciousness research. Any attempt to reduce or explain consciousness through 'objective' metaphors such as neurophysiological processing or quantum field effects at neural tubules is, in a 'naive-real'[3] sense, attempting to study an 'object' which is being unnecessarily construed from *qualia.* There is little

[3]This term comes from Broad's critique of the notion of the objective in modern science [15].

doubt that the 'explicate' metaphor of 'brain' has much to do with the related, but not identical, explication we call 'consciousness'. However, it is usually considered a commission of a category error to superimpose or interchange these metaphoric constructions and, further, naive to fail to recognize that both arise, in the sense of James's radical empiricism, from a human experiential source and only from that source [5]. Thus, the study of consciousness requires that we heed the call of the phenomenological investigators of the first part of this century and return to experience itself [9].

THE NATURE AND STUDY OF OPERATIONAL CONSCIOUS EXPERIENCE

But how do we study experiential states and remain within the very useful methodological framework of science? Science, we must remember, is not a single methodology, but a collection of related methodologies which allow us to collect empirical data (experiential facts) in a manner which makes this data available to any other reasonable observer at any other time or place provided the methodological and observational techniques are conducted in a manner congruent with those that produced the phenomenon before. As each scientific discipline has its own unique methodological constraints, those specific to experiential states require their own unique development and application. It has been argued elsewhere by both Deikman and Nelson that some of these investigatory technologies already have been in development for quite some time and are to be found in a number of contemplative traditions such as Buddhism [16, 17]. It is arguable that these methodologies are scientific in that they are primarily empirical, use methodologies that require operationally defined concepts, and are built around the requirement of repeatability. The scientific study of conscious experience as phenomena would, of course, require refining these techniques and developing them apart from their religious and cultural trappings.

We can begin such a study by considering the *deployment of attention* (and attentional resources) as the *sine qua non* of experience's constructional operations. Looking further into this process, it is apparent that the deployment of awareness can be conceived of as generating, in an operational sense,[4] the sum total of experience in the present and itself is set by the degree of self-reflection operating as part of that deployment. Further analysis reveals that the focus and

[4]As Benjamin explains, Bridgman's notion of operationism is not like a cake recipe in that following the directions brings a cake into 'existence' [18, 19]. Considering existence brings us back to the thing-in-itself conundrum and, as argued previously, this is not a useful focus in any attempt to unpack the issue of consciousness. Operationism describes the formation of *knowledge* in pragmatic and procedural terms and in the position being put forward here those are the activities of self-reflecting experience.

intentional quality of deployment emerges as the result of other operations whose functioning determines the degree of self-reflection occurring at any given moment. In this analysis reality can be understood as a continuous stream of explications unfolding as qualities of conscious awareness generated by the nature and degree of awareness deployment and reflection. The experience of any "world" is understood herein as an operationally generated metaphoric constellation of concepts working in much the same way as the operations of using a ruler define the concept and hence the knowledge of metric length.

This operational model of consciousness as a self-reflexive "backward cast shadow" is illustrated in Figure 1. From the upper horizontal section of this diagram it can be seen that consciousness is an inferential construct created by intending the contiguity of previous experiential "presents" (two instances of which are shown at t-1 and t-2) into an on-going process which gives the experient the sense that there is a container whose existence is greater than the current moment alone and encloses the objects and states associated with this collocation of past moments. The current moment is represented by the least shaded oval and the arrow on this oval is intended to denote that the experiential moment is at least partially reflected most of the time, although it is possible that there are moments of awareness which can be totally unreflected. The large, shaded vertical arrows represent, from above, potential sources of informational input into the current moment and, from below, the operations (functions) which determine deployment and quality of attentional resources and thus the ratio of reflected to unreflected experience as well.

The operational functions which determine state of consciousness and, hence, experiential reality are summarized in Table 1. As already indicated, the fundamental maneuver of the deployment of attention is inextricably connected to the process of conscious awareness reflecting itself. The conglomerate of bodily, emotive and cognitive operations underlying deployment of attention determines on which aspect, state or function of "consciousness-doings" awareness (as experience) intends reflectively. Reflection, and hence deployment of attention, can be passive, as in the sense of a filter whose capacity and form are set as on-going background states or activities, or it can be active, as in the sense of focused concentration and participation of the experient in consciously manipulating and changing those functions. This would roughly correspond, in some sense, to Reed's active and passive attention and their roles in the more limited range of experiences he terms "cognitive anomalies" [20].

Figure 1

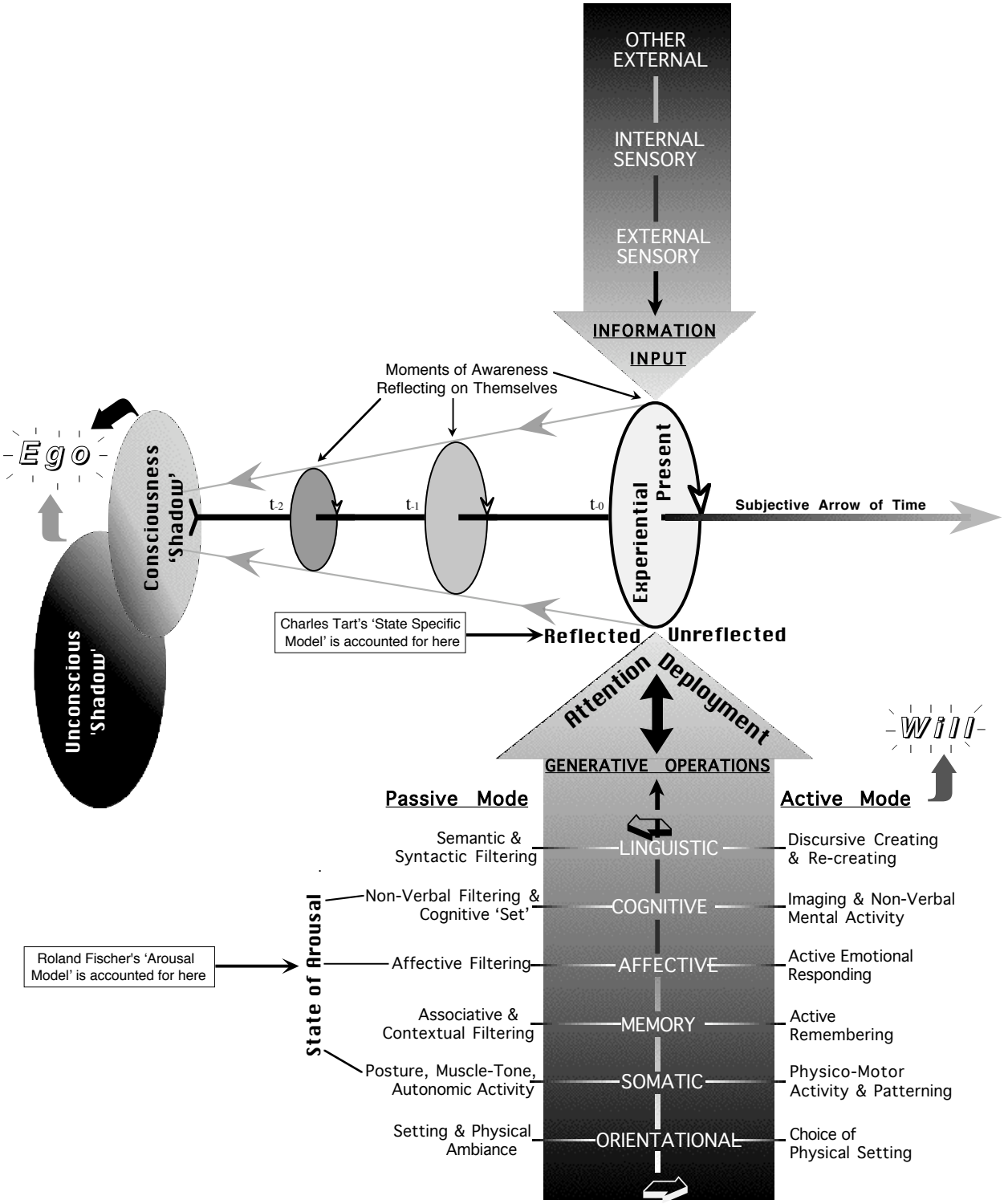

Table 1

1. ORIENTATIONAL (Place) - Choice of location and/or creation of explicate self/other forms, in its active mode, and contextual filtering and state maintenance, in its passive mode. Attention is 'directed' by 'significance' and 'meaning' of surrounding forms, ambiance and circumstance (also includes social and cultural shaping and filtering).

2. SOMATIC (Sensory/Motor Operations) - Sensory-motor patterning of 'physical' self and thus active forming of relationship to, and maintenance of the explicate forms of 'self' and 'other' (subject-object dialectic). In the passive form it is the bodily filter determining 'body image' by maintaining self-recreating parameters.

3. MEMORY - This may be the re-enfolding (Bohm, 1980) of 'habit patterns' (Sheldrake, 1981) into the 'implicate order', or the unfolding into the 'explicate' in its active form. The associative aspects connect 'habits' in the manner of a holographic recording with a probabilistic relational matrix describing the web of connectedness. In the passive form, this re-determines the state of the system with each emergence of a standard operational configuration. In the active form, this matrix is activated from the 'top' as it were.

4. AFFECTIVE (Affect and Arousal) - In its passive form, it gives 'meaning' and 'reactive' quality to the totality of a given experiential event and, in its active form, it determines what events are 'felt' to be possible. Although affect is generally regarded as a 'by-product' reaction to events for human beings, it is taken here to be like the color we give to a picture and our way of framing it to include and exclude events and things, as well as to determine figure-ground relationships and what 'picture' we choose. Part of this operational system is always active in awareness, but much of it is operative outside of the range of reflective capacity and is in this sense 'unconscious'.

5. COGNITIVE (Conscious Processing) - These are the range of behaviors we label as thinking, remembering, visualizing, conscious attention, etc. in the active mode, and as cognitive 'set', and overall structure of thought patterning in the passive mode. The experience of 'will' seems most associated with this group of activities, but it is impossible to tell which comes first. 'Will' may be a 'shadow' effect of the active mode like Sartre's transcendental 'ego'. It is with these operations that we associate our choice of *active deployment of attention.* Choice, however, may be an illusion caused by the assignment of initiation of an event to 'self', but this 'self' is still an operational by-product, determined by the state of the overall system. In either case, we can differentiate an active, as well as a passive deployment of attention.

6. LINGUISTIC (Language and Verbal Operations) - Discursive 'internal dialogue' and external linguistic communication continually re-create the explicate metaphorical forms that constitute the 'picture' of reality. This is the active intra- and interpersonal filtering of experience into culturally- and personally-bound explicate forms (self-cuing). In its passive form, language structure, as an operational connecting grid, filters everything through the shape of syntactic and semantic schema.

In its passive mode, reflection occurs because a system capable of reflective consciousness is itself always at least partially reflected. This state is what defines "existence" and is the operational explicate metaphor we refer to as our "mind-body complex". In its active mode, reflection is seemingly directed by the state of the system and the feedback generated by the background reflexive activity.[5] Underlying the passive mode are a number of sub-operations, which include the perceptual filtering system determined by language meaning and structure, physico-motor "stance" or posture (this includes in what "place" one puts oneself), sensory "set" and attunement (which varies from modality to modality), and memory which is activated according to the information flow through the entire experiential matrix. Although we are referring to reflection as being passive here, we recognize that its on-going activity is implicit to and part of the entire "set" of the system.

[5]This is what cognitive psychologists generally refer to as 'looping' and for Katz, in her explanatory system of emotional arousal and altered states of consciousness, affect is both the outcome of conscious state change and its partial source [21].

In its active mode, reflexive conscious experience is similar, but it gives the impression of emanating from some source such as a "will". Although this will seems, experientially, to be an active agent coming from an active "self", it is, again in the conceptualization of Sartre, a projected shadow of the doing of the active mode of reflection [8]. In other words, there is no existent will or doer "behind" the activity, only the doing in a mode that gives the impression, as part of its cognitive form and involvement, that it emanates from a source beyond itself. In this active mode, language, through the "inner" discursive dialogue, becomes a labeling and unfolding activity which creates and maintains explicate form and is directly involved in those activities which generate the sense of 'will'. This active attention mode also determines what aspect, or aspects, of sense experience one emphasizes or attends. The difference between this and the passive mode is that, here, discursive linguistic manipulation is an intrinsic part of the active process, and it is this linguistic participation that gives the subjective impression of a more consciously aware or participatory quality to the active mode. Again, it must be noted that this construction of the experiential awareness process makes no ontological ascription other than to speak of what is "real" experientially. Thus, one can speak of a sense of ontological ground which is experienced as being real, but, as in the formulation given by Ninian Smart, one can say nothing about its "existence" which is analogous to Bohm's insistence that we can never know the "hidden variables" of the "super-implicate order" [22, 6].[6]

The active cognitive form, or 'conscious awareness', is manifested through the reflection to memories, emotions, visualizations, sounds, etc. Once again, the "choice" of what we bring into the active reflected field is intimately tied to what came before, the whole existent order as it is now (state of consciousness), and the use of active linguistic ordering through the discursive inner dialogue. In such a system there are steady states toward which experiential systems tend because:

1. consciousness systems "fall" toward the operational formation represented by the "shortest" path not unlike the notion of gravitation in which mass tends to move along geodesics, or the shortest geometric distance in curved space-time;

2. a particular unfoldment, like reflected consciousness, has associated "habit patterns" of formation which are proportional to the rate and frequency of their previous unfoldments (Sheldrake [23]);

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[6]Ninian Smart differentiates between reality and existence by using as examples entities which are held to be real by various cultures and religions but cannot necessarily be shown to exist per se [22]. However, this uncertainty can be asserted about all human epistemic entities since there is no experience which is not, in some sense, culturally mediated and, as asserted earlier, there is no way around or through human experiential reality in order to directly 'discover' the 'thing-in-itself'.

3. they are part of a permanent alteration in the local activity, brought about by reflectively instigated changes, which in turn are brought about through learning and are kept in place by the doings of explicate conscious experience reflexively re-creating itself continuously.

Since the stability of a particular state of consciousness (SoC) is dependent on the dominance of a given constellation of reflective/deployment operations, then, for example, if discursive internal dialogue is de-emphasized, the whole system will tend to seek a new steady-state. In fact, the inter-connectedness of all the operations, as depicted in Figure 1, when disturbed in any aspect, will tend to cause a shift and reassembly of the whole dynamical system. Because of the stochastic nature of this entire implicate/explicate functioning, this occurs in such a manner that the functional form of the re-assembly into any given new stable state is not entirely predictable. This change, as in Tart's model of states of consciousness, Fischer's arousal concept, and Katz's cognitive/affective re-interpretation, causes a shift in overall arousal and hence the perceived intensity and quality of events thus leading to an altered state of consciousness experience [24, 25, 21].

SUMMARY AND CONCLUSIONS

Throughout this paper consciousness has been eschewed as an entity belonging to either an objective or a subjective ontological frame. Instead, it has been taken to be an umbrella concept for the experiential doings usually referred to it. In other words, it has not been taken as a thing, place or self-existent epistemic entity, but rather as the emergent totality of its collective presence, activities and content. In this way consciousness has been dealt with as the collective operations of "becoming" and "doing" in and around the act of reflection (attention deployment) both kinetic (active and conscious) and potential (passive and unconscious) but within the potential range of attention. Consciousness, then, is the *existentiality* of the moment and becomes awareness in its immediate form but knowledge of itself and objects when one retrospectively reflects previously reflected conscious states as part of the present. It is creative, but this is not to say that it has any ontic generative power apart from itself, but rather, that in our case, it creates human, experiential reality, which is all that we as humans beings can directly know and study scientifically.

It seems likely, as suggested by thinkers such as David Bohm and Benjamin Whorf, that our reality, including our concept of consciousness, is intimately connected to the metaphoric nature of language [6, 26]. The seeming immanence of these explicate metaphors (objects, states, organisms, etc.) is inextricably connected to the desire we seem to share as human beings to hold the contents of consciousness to be static forms existing as separate, objective entities -- and this, of course, includes consciousness itself. Therefore, when we engage activities which attempt to break the

stasis of this highly trained process of conscious experience (e.g., the way we think about consciousness), we automatically attempt a re-assembly our previous experiential picture which is the germinal process in the maintenance of world and worldview. Our usual ability to return ourselves to the experiential base state merely serves to reinforce this sense of immanence of objects.

Again, consciousness is the operational knowledge construct of experiential states which can only be defined by their "doings" in relation to other doings, in a similar manner to the metaphor of physics, in which time and space can only be relatively specified. What we know, therefore, are the doings of the operations of reflection, because it is only in the reflected state that consciousness has a function called knowledge and this is not consciousness itself. It would seem, therefore, that when one sets out to study consciousness, one is studying the reflective activity at a linguistic/metaphorical level. This is no different from one's attempts to study what is believed to be the objective world. Here one is exploring the structure of linguistic/operational metaphors of the activities of a different, but related, reflected conscious experiences.

This paper has been a rather condensed description of an operational psychophenomenological approach to consciousness and knowing. In some sense the entire thrust of this essay can be summarized by the words of the Soto Zen Buddhist patriarch, Dogen-Zenji when he states that "There is no body and no mind...Everything is just a flashing into the vast phenomenal world" [27, pp. 103, 101].

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