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## The Relevance of Ordinary and Non-Ordinary States of Consciousness for the Cognitive Psychology of Meaning

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Contrary to general assumption, subjective reports of immediate ordinary consciousness and non-ordinary alterations of consciousness can provide unique evidence concerning the bases of the human symbolic capacity. Evidence from classical introspectionism, the meditative traditions, and descriptions of synaesthesias suggests that thought rests on a cross-modal synthesis or fusion of the patterns from vision, audition, and touch-kinesthesia. This would provide a holistic, non-reductionist explanation of our capacity for reflexive self awareness and recombinatory creativity. The approach is consistent with Geschwind's and Luria's models of neocortical operation and Jackendoff's and Yates' recent emphasis on symbolic thought as a "neutral" or "amodal" synthesis.

How is it, after a renewed interest in consciousness, in the form of research on imagery and altered states of consciousness, that current cognitive psychology seems so determined to regard subjective awareness as a sort of epiphenomenal "screen," with an at best flawed and confabulated access to the supposed computational core of mind? Certainly if symbolic cognition, especially in its more creative aspects, must be *felt*—and should its genesis require expression in some *sensory* medium ("image")—then artificial intelligence simulations of that activity must fail. Computers, after all, are not *alive*, and would thus be constrained to the modeling of only the more routinized and automatic side of higher cognition.

Of the multiple definitions of consciousness provided by Natsoulas (1981)—immediate sentience, arousal (as its intensity and novelty dimension), and

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self referential consciousness—I am concentrating on the latter. Neisser and Bartlett (turning around on and rearranging the schemata), Hofstadter (reflexivity), and Mead (taking the role of the other) have all made some form of self consciousness criterial to the human symbolic capacity. On these views consciousness has the structure of an interior dialogue or imaginal conversation (even in its most imagistic forms).

In what follows I will show how the empirical features of subjective, here and now consciousness and their exaggeration in so called “altered states,” help to (a) lay bare the core of the human symbolic capacity and (b) show the necessity of self referential, sentient states for their operation. In contrast to “cognitive science” orthodoxy, consciousness will be seen to give direct (and unique) evidence about the *functions* of mind.

### What is Consciousness Like? Some Data

This question has been a perpetual puzzle and conundrum. Our consciousness is given to us with utter clarity as a definite “something,” and yet on direct inspection it glides immediately beyond itself. Here we find that intentionality which led William James to conclude that each moment of awareness is always about something other than itself and which led generations of hardy functionalists to conclude that consciousness could never provide genuine psychological *evidence*.

If we nonetheless persist in asking about the features of immediate consciousness, what it is *like* to be conscious, we could do worse than start with the various meditative traditions. Mindfulness or insight meditation, after all, purports to establish an attitude of detached, non-evaluative “witnessing” that eventually allows a more and more immediate self observation of ongoing mental processes. It is an attempted introspection on the mind doing nothing, not subservient to any applied function except that very attempt to observe itself, which the Buddhists interestingly term “mind as such.”

There is by now considerable evidence that meditation changes cognitive and neurophysiological functioning (Alexander et al., in press). In particular, meditation may intensify and so lay bare features of consciousness that are normally masked within everyday experience. Indeed, I have tried to show elsewhere (Hunt, 1985a, 1986; Hunt and Chefurka, 1976) that self consciousness or reflexivity pursued for its own sake is a major causal agent in the release of the subjective effects typical with meditation, psychedelic drugs, sensory deprivation, etc., and that even the classical introspection of Titchener, when actual introspectionist experimental protocols are inspected, yields ultra brief manifestations of these same experiences.

Consider the observations on the nature of mind that follow from the most advanced meditative technique of Tibetan Buddhism—the practice of *Maha-*

*mudra* (the “great seal of voidness”). Consciousness here is finally identified as “just there,” independent of our will or intent, open and without qualities—a bare “thatness.” It can be conveyed only by metaphor. Thus it is like the glow of light in empty space, i.e., nothing in itself but “allowing” everything else to be seen—or like space itself, open, empty, clear, and “allowing” things to be within it. Indeed, the most advanced practitioners drop all metaphors for consciousness:

The nature of the settled mind [meditating] is a clear, vivid, brilliance, not a total nothingness. In this settled state there is a clear, open resplendent, gently flowing consciousness which cannot be identified as this or that. You cannot say that it . . . has a colour, a shape, and so forth. . . . Although it cannot be identified as this or that, nevertheless pristine, pure, brilliant, resplendent, vivid moments of consciousness which make things clear happen to you all the time. . . . The defining characteristic of mind is that by nature it is clear, void awareness. (Wang-Chug Dor-je, 1978, pp. 85; 89)

Yet at earlier stages of this same practice, meditation involves a cultivation of specific visualizations as successive metaphors for mind in itself. Thus, the meditator may imagine a white coloured sphere to stand for the aspect of experience that flows like water, dissolving into red for the fiery heat-like side of consciousness, thence into a green sphere as the wind or air-like ephemerality of awareness, a blue sphere for its quality like empty space, and finally into a clear crystal for the bare “thatness” of consciousness—which is then made to dissolve into emptiness. Each visualization may be accompanied by a specific sound (*mantra*) and gesture (*mudra*). Such imagery resembles a directed form of the spontaneous imagery at sleep onset first identified by Silberer (1912/1951) as autosymbolic of cognitive operations. Indeed, Asch (1961) and Arnheim (1969) have argued that in all language groups reference to direct experience must rest on physical metaphor—leaving us to speak of the “stream” of consciousness, hopes being “kindled,” “clouded” awareness, or the kind of “space” one is “in.”

Such material may seem a strange sort of evidence to most cognitive psychologists. We must stop and ask what is this “consciousness” such that within the same tradition it is both indefinably “nothing” and potentially self depicted by physiognomic imagery of water, fire, space, or light? Could such a systematic ambiguity contain any *positive* clues about symbolic functioning? Before answering this question in the affirmative, it may be reassuring to realize just how close these Tibetan Buddhist observations are to the conclusions of that quintessential American functionalist, William James.

James, in his famous chapter “The Stream of Thought” in the *Principles*, opposed the imagistic bases of consciousness posited by Wundt and Titchener. Yet James himself makes a crucial use of the imagistic metaphor of “stream”: consciousness is a definite something with no discernable features apart from its “flow.” As with the Buddhist meditators, immediate consciousness is just

there, as if imposed on the observer from outside. Saying "it thinks" rather than "I think" would better correspond to the phenomenologies of the experience of insight provided by artists and scientists.<sup>1</sup> While that "streaming" feels "mine" (i.e., it is inherently open to being *felt*), there is no essential "I" or core of self identity within consciousness, just transitional personifications of "me's" and "you's" in varying degrees of explicit or implicit interaction. The flow is both sensibly continuous (a subjective unity within each moment) *and* it is constantly changing and transforming—as here James approaches the inherent novelty and unpredictability of self referential systems. The "images" of Titchener may seem more "substantial" than this account of "transitive" streaming would imply, but for James discrete images merely manifest a slower rate of change—thus relatively obscuring the more fundamental contentless sense of "direction" and "flow."

The later James (1912) treads a path similar to *Mahamudra*. There is now no way to characterize a medium of consciousness in itself or apart from the features of the world it is of or about. In other words, the only approach to consciousness is through physical metaphor, ostensibly removing any special privilege from James' "stream" and leaving the door open to potential new chapters that he never wrote like "the fire of consciousness," "the light of consciousness," etc. Consciousness has no essential "whatness" but only a simple "that":

Pure experience is the name which I gave to the immediate flux of life which furnishes the material to our later reflection with its conceptual categories. Only new-born babes, or men in semi-coma from sleep, drugs, illnesses, or blows, may be assumed to have an experience pure in the literal sense of a *that* which is not yet any definite *what*, tho' ready to be all sorts of *whats*. . . . (James, 1912, p. 93)

Up to now we have located a systematic ambiguity in our experience of immediate consciousness when it is observed for its own sake. But the same contrast between impalpable emptiness and specific imagery appears if we attempt to reanimate the earlier literature of experimental introspection on what consciousness is like in the midst of more "applied" thought and feeling.

The Wurzburg introspectionists described consciousness during problem solving as an "impalpable state," not further specifiable apart from a general "sense" of awareness of task, solution, or expectation. Yet they insisted that this "state" was an empirically observable *something*, and not merely a negative finding indicating lack or absence. Indeed, the major contemporary update

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<sup>1</sup>This sense that immediate consciousness is somehow done *to* us is consistent with the notion that the human mind is structured dialogically. Thus, the more passive and detached we become, whether in meditation, introspection, or the incubation period before insight, the more active and spontaneous and surprising become our immediate states of awareness, potentially bringing forward, as subjective "other," processes of symbolic cognition that would ordinarily remain unconscious (Hunt, 1985a, 1986).

of this notion comes with Eugene Gendlin's descriptions of "felt meaning" as a crucial phase of all symbolic cognition. "Felt meaning" is, again, a definite "something"—preliminary enough to permit multiple lines of articulation, but specific enough to be sufficient where more exact expression is not required. Since a given moment of felt meaning can block alternative "senses" of understanding, it is causal and not epiphenomenal. Nor should we consider felt meaning as "primitive." Felt meaning must be equally present for the successful understanding of equations or fairy tales. While it may be preliminary to specific forms of expression, it must also follow the most complex and intricate sequences of articulation. What is it? How is it that felt meaning can at times be so strongly "sensed"?

Which brings us to the opposite camp of Titchener, who simplified and interrupted tasks of semantic recognition so that his observers could experience the typically masked imagistic processes that constituted consciousness on his model. Yet not so far from the Wurzburgers after all, those "images" were either vague kinestheses—not further specified (quite consistent with Gendlin on bodily "feels" as the most immediate expression of felt meanings)—or if they were specific, the images often seemed irrelevant to the cognitive task. Certainly, in accordance with propositional models that deny any fundamental role for imagery in cognition (in Titchener's day and the present), it is impossible to guess, for instance, that an introspective report of a visual image of a frowning face, a burning sensation in the back, relaxation in the upper body, and a sense of nonlocalizable muscle strain "refers" to or somehow is "baffled expectation." This was an actual introspectionist report in Clarke's famous 1911 study in which Titchener's laboratory attempted to refute Wurzburg findings.

The debate over the functional value of such imagery goes on. Are such accounts at least indirectly revelatory of essential unconscious processes or are they merely a form of mental doodling? For Pylyshyn (1981) symbolic cognition is abstractly propositional, with imagery a merely epiphenomenal surface array, while Shepard (1978) asks how it is then that original scientific ideas so often come to us in the form of pre-emptory imagery. Even if we can not necessarily deduce the concept from a description of the image, that is in fact how the thought first arrived. Thus Arnheim (1969) suggested that the roots of conceptual thought must rest in normally unconscious *abstract* imagery of dynamic geometric forms and their transformations.

Even the philosopher Wittgenstein, so influenced by James and the Wurzburgers in his psychology of thought, was struck by how often "meaning" is given through sensory *physiognomies*. Significant words come to have what he terms "faces" or "gestures" for us in the same way that the sound "u-la-la" fits a curvilinear visual pattern and "tak-ki-te" evokes something more angular and abrupt. A photograph of Freud can come to evoke for us the pessimistic

stoicism of his model of personal development. Yet, following Wittgenstein's line of thought, if I were taught that "Freud" (in sound and photograph) went with Jung's writings, would I not sense "Freud" as physiognomically expressive of Jung's ideas? Indeed, there are no *fixed* meanings attached to physiognomies. I *can* pronounce "u-la-la" in such a way as to make it jerky and angular. Just so, the medium of expression *becomes* imbued with the felt significance of what it represents. In Wittgenstein's words, these expressive physiognomies are "arbitrary yet instilled," and without this gestural-imagistic component within language use we are what he calls "meaning blind," as demonstrated experimentally by Werner and Kaplan's (1963) research on the way expressive gesture can delay verbal satiation.

How is it that a physiognomy can best convey a "felt meaning" that is itself also impalpable, and *could* have been expressed with a different pattern and rhythm? In answering that question, we would have a major clue to the organismic bases of symbolic functioning.<sup>2</sup>

### The Evidence from Altered States of Consciousness

If we interpret altered states of consciousness as showing normally masked or unconscious cognitive processes, then we may learn much from the ubiquity of synaesthesias in these conditions. Synaesthesia is far broader than the cross translations of the senses involved in simple "colour-hearing," extending also to the complex "geometric" fusions of visual design and body image described by Klüver (1966), the closely related experiences of *samadhi* or fusion with the concentrative object of meditation, "empathy" in aesthetic response, and back into the playful "mirroring" interactions of infant and mother. (In the latter, after all, the infant, who may never have seen its own face, imitates the mother's expression and delights if its own is imitated in turn. It seems most plausible to account for the early stages of this phenomenon by positing some initial capacity for visual-kinesthetic translation.)

<sup>2</sup>In explicating the relation between abstract reference and the physiognomy or "feel" of meaning, distinctions between conscious/unconscious, left hemisphere/right hemisphere, proposition/image seem far less useful than Langer's (1967) portrayal of the mutual dependence of representational and presentational symbolisms. In representation (ordinary language use, mathematics) the properties of the medium are subordinated ("unconscious") to the controlled and narrowed intentionality of directed thought. In presentational symbolisms (aesthetics, altered states of consciousness), on the other hand, where the expressive features of the symbolic medium are paramount, then intention is relatively open and a multiplicity of meanings emerge spontaneously and unexpectedly. While communicative utility predominates in the one and creativity in the other, nonetheless both must be present in any act of symbolic reference (i.e., the one must be embedded where the other predominates). Neither can be seen as inherently primitive or advanced and each has its own line of potentially predominant development. These lines end in mathematical logic and the meditative traditions, respectively, where equations still have an intuitive "feel" and mystical experience necessarily "refers."

Even studies of the most simple synaesthesias show that these experiences are not merely strange sensory effects, but closely related to symbolic thought. First, subjects who experience synaesthesias often describe them as their personal manner of "thinking"—a kind of imagistic alternative to "inner speech" (Wheeler and Cutsforth, 1922). Indeed, Hillman (1977) has suggested that functional images are themselves always cross modal fusions, i.e., that it is *implicit* synaesthesia that confers the physiognomy or referential "feel" on imagery. Marks (1978) has demonstrated the importance of simple (one or two dimensional) synaesthesias as the source of basic poetic metaphors, as in "silver-toned chimes." Finally, McKellar's (1957) demonstration of the rarity of simple synaesthetic translations in which tactile or visual stimuli elicit an auditory effect, whereas all other combinations are quite common, suggests that the missing category corresponds to language itself. Conceived in starkest simplicity, language is a sort of complex synaesthesia, cross referencing vision, sound, and articulatory kinesthesia, with the latter providing a guiding template that links sights with sounds as their naming—their identity. In this sense painting is also a complex or "geometric" synaesthesia in which translations between kinesthesia and vision predominate.

Most important for this analysis are the reports in the early experimental literature (Werner, 1961) of both "positive" (typical) and "negative" synaesthesias. Negative synaesthesias are states, triggered in synaesthetes by externally presented stimuli, and described as an amodally felt "sense" which often turned into "positive" synaesthesias in the next instant—but during which the subject could literally not tell what modality had actually been stimulated. These amounted to a contentless sense of significance, a kind of amodal physiognomy perched on the very edge of cross modal imagistic articulation. It is just here that we may find the key to the strange duality of our experience of thinking—as both impalpable and imagistic. The processes of symbolic thought are synaesthesias. If not disrupted they are experienced as impalpable or "empty"—a "sense" of significance. But where "disrupted," whether by introspection, alterations in consciousness, or pre-emptory insight, thought will appear as a cross-modally felt sensory image. In other words, maximum fluidity of thought shows its intentions, not its constituent processes—much as the experienced cyclist in heavy traffic no longer notices the specific phases of his/her riding. Thus the missing "X" between the Wurzbürger impalpables and Titchenerian single modality images are precisely synaesthesias, which in their range join the two in a natural series.

The most extreme alterations in consciousness, as manifested in the experiences of the great mystics, may show the synaesthetic bases of "insight" most directly. It was William James (1902) who first suggested that mystical ecstasy was an exaggeration of the ordinary sense of significance—but manifested abstractly and in its own right, not subordinated to specific prag-

matic reference, and so potentially referring to "everything." But how is it then that such experience so often includes accounts of diffuse white light *and* the subjective sense that one is somehow physically disappearing or about to undergo a sort of cessation, "dying," or annihilation? I would suggest that "light" appears here as the cross cultural metaphor for "totality" or "meaning as such" because light, as the most basic quality of vision, is on a concrete sensory level "open" to all more specific visual qualities in the same way that highly abstract or "metaphysical" felt meanings can include all more specific life events. This state of noetic realization would, however, also feel like a cessation or disappearance of "self" because the tactile-kinesthetic translation of the luminosity that fills space would entail a similar "opening" of body image—its subjective evanescence. This is exactly the sense of "disappearance" or "dying," whether felt as pending or directly undergone, that is described in some accounts of psychedelic drugs, schizophrenia, and very deep meditation (Hunt, 1985b). If mystical experience is a form of cognitive insight and symbolic cognition is based on cross modal translations, it is hard to see how else to explain the actual phenomenology of these states.

Here again, the sense of significance in ordinary thoughts and the experience of utterly intensified felt meaning are equally understandable, in cognitive terms, as synaesthesias—varying primarily in their degree of differentiation and specificity of application. The "stuff" or "substance" of thought is a synaesthesia.

### **Some Supporting Evidence from Neurology and Cognitive Psychology**

It is sometimes difficult to think *simply* enough to locate the essentials of one's subject matter. The very structure of the human neocortex, with what Luria calls its tertiary zones (or centers of the symbolic capacity) mediating between the association areas of the separate senses, strongly implies that symbolism is based on a capacity for cross modal integration. Norman Geschwind (1965) specifically suggested that human language and other symbol systems depend on a preliminary capacity for cross modal matching or, I would say, inter-translation of patterns from the separate sensory modalities. Cross modal translation would operate across the cortex and be relatively independent of the lower limbic mediation of the senses that is involved in association learning. Thus, the recombinatory and empathic activities of the higher apes would rest on their copious cortical inter-connections between the occipital and parietal regions. Human intelligence would emerge with the addition of vocalization (the temporal tertiary zone) to this capacity for visual-kinesthetic translation.

Current research in cognition supports a similar cross-sensory model of



human consciousness. In recent years both Marcel (1983) and Yates (1985) have advanced the view that conscious awareness *does* something. It is a process that actively and creatively synthesizes the totality of separate unconscious computations, and not just their outer expression. Marcel's tachistoscopic research shows that the more complex or higher semantic processes of word recognition are synthesized more immediately and quickly than the more "mechanical" tasks of letter recognition.<sup>3</sup> Yet if we look to the earlier introspectionist tachistoscopic literature (Werner and Kaplan, 1963) to see how this momentary "sense" of meaning is "given" subjectively, before the conscious perception of the presented word, we learn that it appears first as an ultra-rapid cross-modal physiognomy. Before subjects recognized the word "cloud" they "sensed" that it was something light, high, floating, and soft.

Yates (1985), meanwhile, pictures consciousness as an "amodal synthesis" of relatively autonomous modules in which the original sensory modality of presented information is largely irrelevant and often difficult for subjects to determine—as in the greater time it takes for subjects to recall the modality as opposed to the content of information and the importance of lip reading in ordinary interaction. Awareness does not contain separate visual, auditory, or kinesthetic-vestibular information, but is rather their flowing into one subjective unity. Since autonomous cognitive modules are relatively centered on single modalities, verbal, visual, or motoric, we can add that Yates' "amodal synthesis" implies a cross modal fusion or "synaesthesia."

The present model comes to conclusions similar to Jackendoff's (1987) artificial intelligence model of the properties of consciousness as "intermediate" between the most sensory and most conceptual poles of cognition, but on entirely different grounds. Jackendoff goes so far as to suggest that since our symbolic conceptual processes occur at the intersection of modality centered modules, the sensory qualities at these points of intersection will be relatively "neutral" or common with respect to distinct sensory modalities. Accordingly, awareness during such activity would be correspondingly neutral and contentless. He misses the possibility that what goes on at these points is precisely an emergent cross modal synthesis, accounting in one step for much more than the "neutrality" of conceptual awareness. It would of course make sense that the structures most available for synaesthetic flow across the senses would be their geometric-dynamic isomorphisms—the gestalt patterns afforded by each sensory modality at more microgenetically pre-

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<sup>3</sup>A cross modal model helps to account for the proverbial "speed of thought" (directly manifested in Marcel's findings). There is evidence that the simultaneous presentation of stimulation to different senses lowers their threshold—as illustrated by the necessity of increasing the number of visual frames per second with the first sound films in order to avoid an increased flicker (Blumenthal, 1977). To the extent that imagery re-uses perceptual schemata, we would expect an analogous "speeding" in symbolic cross modal processes.

liminary levels than the most differentiated qualities of each modality. It would be the properties of conceptual thought that are generated as emergent wholes by these "complex" or geometric synaesthesias.

Cross sensory translations also provide a genuinely organismic basis for current speculations about the "holographic" operation of the cortex (Globus, 1987), since "thoughts" would be generated by a synthesis taken from the different "angles" of visual, tactile-kinesthetic, and auditory patternings. Gordon Globus (1989), in his model of dream formation, has utilized Smolensky's (1988) account of neural connectionism to suggest something of the underlying "mechanics" for such cognitive holism in terms of emergent "harmonies" resulting from the "settling out" of parallel neural nets. The present cross-modal perspective is consistent with the comments of Uyl (1988) and Lakoff (1988) that the continuous quantitative transformations posited in connectionism will prove inadequate as long as we avoid positing the complex links across specific modules that are actually needed to account for symbolic operations. In other words, only emergent flow properties across qualitatively distinct sensory realms could constitute the emergent harmonies of cognitive symbolism—at best a sort of "qualitative connectionism."

Finally, it seems likely that a cross modal translation conception of mind reconciles the tension between recent multiple "frame" models of human faculties and more traditional perspectives that seek a single "deep structure" for human intelligence. On the present view each of Gardner's frames of intelligence (verbal, musical, mathematical, visual arts, etc.) would be rooted in a different balancing of cross translations back and forth between vision, touch-kinesthesia, and audition—with one or two functioning as determining template and the other(s) as outward expression. Accordingly, there can be no center or essence to these various symbolic forms other than this circuit of self modifying, open-ended synaesthetic flow. Such a model entails an "indeterminism" concerning any fixed essence of mind also found in some cognitive science (Anderson, 1978) and in Tibetan *Mahamudra* meditation.

### Conclusions

The view that symbolic meaning appears most directly as an immediate consciousness based on complex synaesthesias helps to explain several fundamental features of human cognition and to reconcile competing models of thought. Our self referential or reflexive capacity would follow from the flowing of one sentient modality into another. Indeed, something like this must be involved in the first ontogenetic manifestations of "taking the role of the other" in infant-mother mirroring games, where the visually presented face of the mother is structurally transformed into an isomorphic kinesthetic expression by the infant. The capacity of symbolic cognition to constantly generate

recombinatory novelty and creativity would similarly follow from cross modal translation. The various sensory modalities are disparately structured, each with its unique ratio of simultaneity and sequentiality. There is no *one* way that a moment of vision will flow into the very different moments and qualities of audition or kinesthesia. Cross modal fusions will necessarily be multiple and open, and accordingly, endlessly creative. Finally, we have already seen how a synaesthetic model of symbolic cognition can simultaneously include propositional and imagistic perspectives. The flow of the senses into each other creates its own emergent space and time, which can be expressed alternately as impalpable "sense" of reference or as expressive, ultimately cross-modal, imagery.<sup>4</sup>

Cognition as cross modal synthesis also has the virtue of avoiding the curious separation of thought and world endemic to most neural and artificial intelligence modelling—leaving higher cognition constructed "in" the head and the efficacy of thought a source of wonderment. The present approach overcomes this fairly modern estrangement of subject and object. If the patternings of the senses are afforded by the ecological array as its resonance (Gibson, 1979), then the novel fusions and "harmonies" emerging from the cross-modal flow of these same patterns are already equally attuned to the possibilities and necessities of our world. Such processes are best conceived, not as "in" the brain, but rather, in Heidegger's sense, "in-the-world."

What we have then is an organismic-holistic model of consciousness. Symbolic meaning rests on the flowing together of the senses. Consciousness is sentient and alive and must thus elude current artificial intelligence formulations. Unconscious computations would be automatizations of what was originally felt and done in awareness. Sentient consciousness would not emerge out of automatic functions in the course of evolution but would be a necessary attribute of all motile creatures, at the least. It would be self referential consciousness that so emerges with the developing neural potential for a hierarchical integration of the senses, finally allowing the endlessly open and recombinatory flow properties of human thought.

In conclusion we might ask whether such a fundamental model of the very "stuff" of symbolic thought, and one based on a descriptive phenomenology of consciousness, could possibly be entirely new. While the direct use of introspective and altered state evidence is original, the historical precursors of this approach are found in various formulations of an "inner" or "sixth" sense

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<sup>4</sup>It may also be possible to account for the differences between representational and presentational processes on this model. Where the symbolic medium directly evokes multiple patterns of felt meanings, as in the arts, the accent would be on the sensed, emergent fusion of patterns from the separate modalities. On the other hand, representation, where medium is subordinated to a monovalently directed intention, might represent less a fusion than a Michotte type "launching" or phi-phenomenon effect between separate modalities. The result would be less a physiognomy and more a direct sense of referring—a more specific "pointing" within thought.

as the core of thought. Its cross modal bases are explicit in Aristotle's *sensus communis* and in some romantic theories of imagination and empathy (Engell, 1981; Hunt, 1989). It may well be that some such synaesthetic model is also implicit within all major psychologies that have been concerned with the nature of experience.

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