

THE INSOLUBILITY OF SITUATEDNESS: A CRITICAL COMMENTARY OF ROSS L. STEIN'S "ON THE POSSIBILITY OF AN IMMEDIATE EXPERIENCE OF GOD"

Ross L. Stein's recent essay in the Summer 2002 edition of the *Journal of Liberal Religion* offers a stimulating discussion of the philosophical and theological bases for his thesis that "the immediate experience of God is a fundamental feature of reality" (2). This thesis of unmediated and prereflective experience delicately rests on his appeals for evidence from the varied fields of process thought, Indian epistemology, and contemporary philosophy of mind.

Unfortunately, the greatest persuasive strength of this evidence—its breadth and multidisciplinary insight—ultimately is also its greatest weakness. Stein attempts to address a question that would not be exhausted or encompassed in multiple volumes when addressed concisely, much less a 20-page journal article. The possibility of unmediated experience with "God" (which he does even begin to define) is an extraordinarily broad and complex topic encompassing questions and issues from fields as varied as philosophy of religion, epistemology, metaphysics, philosophy of mind, science and religion, comparative mysticism and theology, to name a few. His understandably cursory presentation sketches a putative framework for the possibility of an "immediate experience of God," but he does not venture any further. In addition to showing that he leaves many important perspectives unconsidered and unexplored in sufficient depth to merit his conclusion, I will limit my discussion by presenting further evidence from the neurosciences and cognitive sciences in support of the centrality and insolubility of context and constructivist epistemologies in discussions of religious experience.

Defining "Experience"

Stein begins by presenting different conceptions of experience. He cautions, "For how we define experience will dictate the language that we will be allowed to use when we describe the encounter of humans with God" (2). Our definitions of certain categories certainly do delimit the language available to us, but I fear that in broadening our vocabulary, Stein's preferred conception of experience has, from the very start, unnecessarily brought us within inches of his conclusion.

Stein is correct in tracing Kant's epistemology in *Critique of Pure Reason* to the constructivism of the contemporary philosopher of comparative mysticism Steven Katz (3). He contrasts traditional Kantian (and Katzian) notions with those of Whitehead and other process philosophers or those sympathetic to process thought (Calvin Schrag, Indian epistemologists). He states that these approaches are "more congenial" to his thesis (3). Unfortunately, in presenting a number of perspectives, assumptions, and worldviews that he finds amenable, he provides assertions of what he is trying to prove not arguments for why we should accept it in light of commonly held and deeply imbedded assumptions about experience, perception, and mysticism.

He merely sketches this Kantian/Katzian intellectual trajectory and does not attempt to articulate the shortcomings of this orthodoxy in the philosophy of religion. Nor does he delve into an analysis of the comparative advantages (whether descriptive or explanatory) of the approaches he appreciates in comparison to the prevailing Kantian/Katzian epistemic conception of experience. When faced with an overwhelming majority of scholars who side with Katz and Kant, as Stein alludes to (3), he must provide more than an *a priori* conception of the basis of experience based in process rather than knowledge. Otherwise his presentation is simply a restatement of either side of the problem.

In addition, positing such an alternative view of experience from the start is a logically problematic backdrop. Specifically, Stein explicates the basics of process thought and from the very beginning states that "Experience shapes the very process of becoming that is enjoyed by all actual entities. *Thus, experience is immediate and uninterpreted...*" (3-4) [emphasis mine]. Is not this distinction material to (if not identical to) Stein's thesis? Thus he attempts to subvert Kantian/Katzian epistemology in a circular manner simply by having the truth of his thesis (immediate and uninterpreted experience) assumed by this premise of process thought (Schrag's Whiteheadian concepts of "experience as a dynamic field" and the phenomenal field as "a process of becoming") that purports to prove it.

Appeals to Philosophy of Mind/Consciousness Studies

In arguing for immediate and uninterpreted experience with God, Stein summarizes the panpsychist position when he states, "All actual entities, and not just conscious beings, enjoy experience" (4). In searching for a philosophical justification for panpsychism, he relies heavily on the theoretical reformulation of the problem of consciousness by philosopher of mind David Chalmers. However, Stein misrepresents the weight that Chalmers gives to the possibility of panpsychism and also fails to address many of the prevalent objections to his theories. For example, even at a fundamental level, many have called into question the logical possibility of the existence of Chalmers's "zombies" (our identical twin with the same functional organization and behavior, but that lack phenomenally conscious experiences) (Kirk 1999, Thomas 1998, Dennett 1995, Marton 1998 also presents both sides well). One must come to terms with this and other important and contested issues before accepting Chalmers's metaphysics or, further, panpsychism.

At times Chalmers seems less concerned about getting everything right when positing a theory in such a young field, and more concerned and excited about the unprecedented process of hypothesis formation and testing in the field of consciousness studies (1995, 218). This is understandable since he has been one of the founders of this vanguard movement of rigorous scientific analysis and testing of a fundamental theory and laws of consciousness. Likewise, Chalmers often expresses doubts about his own theory. He claims that his theory is "speculative, but it is a candidate theory," (1995, 218) and he particularly has the most doubt about the double-aspect theory of information, one of the cornerstones in Stein's argument for panpsychism. In comparison to the principles of structural coherence and organizational invariance, Chalmers states that "the double-aspect principle is extremely speculative and is also underdetermined, leaving a number of key questions unanswered" (217). Chalmers continues, "I suspect that the principles of structural coherence and organizational invariance will be planks in any satisfactory theory of consciousness; the status of the double-aspect theory of information is less certain" (1995, 219). In *The Conscious Mind*, he even claims that the double-aspect theory is more likely wrong than right (310). After responding to criticisms from John Searle on his supposed view of panpsychism, Chalmers says, "...it simply isn't the case that the double-aspect view implies panpsychism" (1997). Chalmers simply does not want to rule the possibility out and says that "I merely explore it and remain agnostic" (Searle and Chalmers, 1997; 1996, 299).

Chalmers own uncertainty in his theory (foremost of which is his insecurity about panpsychist trends) is well warranted in light of the fact that his views (property dualism or what he calls "naturalistic dualism," nonreductive functionalism ("given that a trillion interacting neurons can result in consciousness, there is no special absurdity in the idea that a trillion interacting silicon chips or humans might do the same" (1997)), and support for strong artificial intelligence) are overwhelmingly in the minority among philosophers of mind. In fact, fueling Chalmers's reluctance

may be the fact that there has been quite a visceral reaction by many prominent philosophers of mind against his presentation of panpsychism. For example, John Searle has called it an "absurd view" (1997, 48). Thomas Nagel, in general somewhat more sympathetic to panpsychism, remarks that it has a "faintly sickening odor of something put together in the metaphysical laboratory" (1986, 49).

But consensus aside, Chalmers is correct to note that a panpsychist hypothesis still requires much more refined articulation and elaboration on a number of philosophically problematic components. Stein believes he finds much support in David Ray Griffin's solution to the mind-body problem (i.e. panpsychism) as a "possible mechanism for our immediate experience of God" (10). My main concern about Griffin's analysis of the mind-body problem is that its opportunistic simplicity creates forced alternatives between "some version of dualism, some version of materialism, or some version of panpsychism" (10; from Griffin 2000, 166). This categorization does not respect the vast diversity and nuanced perspectives among philosophers of mind along an incredible continuum of understandings of what the mind-body problem is and how to solve it. Griffin rejects all versions of dualism and states that since an "adequate explanation has never been offered for how mind and body, if they are of different substances, can interact"(10). But his reason for rejection is explicable only in light of his lack of appreciation for the nuanced analysis of modern dualists and his assumption that dualists all conceive of mind and body of being "of different substances" (ala Descartes). Of course this is only the view of substance dualists, themselves a quite varied group. There are also property dualists (of many kinds) who would assert that the mental and physical are different properties of the same object, not of two different substances. Chalmers is a perfect example of the futility of attempts to sweep aside such broad categories. Although often called a property dualist, he self-describes under "naturalistic dualism" and does not succumb to the usual traps of simplistic Cartesian dualism as he certainly is grounded in a biological understanding of the mind and has elements of functionalism, dualism, etc. Indeed many dualists have dealt with the interactionist problem. For example, some have tried to reconceptualize it not in terms of traditional notions of dualist ontology, but rather in terms of problematizing our notion of causation (Hart, 1988). This same logic applies to the tremendous variety among "materialists." Thus, Griffin's argument for picking the leftover category that escapes his sweeping criticisms, panpsychism, is problematic. Panpsychism must be reconsidered on its own terms, many of which are troublesome, not as a default.

For instance, how is panpsychism compatible with a conception of the causal closure of the physical world? Clearly we have evidence of cognitive processes and consciousness in higher mammals, but what evidence do we have of any mentality (however basic) among common matter? Or among pencils? Or among copper atoms? Or among neutrinos? Unfortunately, it seems that panpsychism is devoid of empirical content and essentially unfalsifiable. Finally, even if we grant the panpsychist premise of broadening the scope of what is conscious or what has "experience" based on the priority of information processing (i.e. the thermostat example), there still remains a seemingly insurmountable problem. Without conceding to traditionally antagonistic theories of emergentism (such as advocated by Chomsky (2000), Pinker (1997), and many others), and without having to confront the implicit threat of epiphenomenalism (mentality lacking causal power), how exactly might it be possible for such experiential qualities of varying proportions and divergent degrees to, together in aggregates, compose the rich inner life of highly evolved creatures like ourselves? This has traditionally been termed the combination problem and to this day remains a thorn in panpsychist explanations of matter.

Finally, Stein notes that philosophers like Daniel Dennett, and other committed physicalists, do not really deal with or technically solve the mind-body problem. They claim that the Dennetts of the world explain away the problem of consciousness by arguing that it is not actually a problem to be solved since consciousness does not really exist. ("Subtract [brain functions] away, and nothing is left..." (Dennett in Shear 1998, 35)) If we are to accept this extreme materialist *denial of experience anywhere* as evasive and not really solving the mind-body problem, why is an appeal to an equally extreme panpsychist *insistence on experience everywhere* any more useful? Don't both strategies essentially respond in escapist manners to the mind-body question by asserting that the question as posed is *the* problem?

Considerations from the Neurosciences

In describing the non-cognitive aspects of experience, Stein states that "The process of experience is distinct from the act of reflection on the process...experience contains elements of both the prereflective-nonthematic and the reflective-thematic" (5). This distinction automatically takes us to Stein's conclusion of unmediated experience. Aside from the aforementioned objections to the way this argument (or assertion) is presented, I will also show that such a claim is unwarranted and must be curbed by epistemological humility. Stein's presentation of the process philosophy distinction between experience as such vs. reflection on that experience (prereflective vs. reflective, nonthematic vs. thematic) is also problematic in light of knowledge from modern systems and behavioral neuroscience on perception.

By supposing this "existential cross section of the experienced world" (5), Stein makes the claim that some experiences are able to break away from history itself, its contingencies, and our conditioned cognitive filters of that unfolding history. However, time and time again, studies on perception have shown that we don't construct the world as it is, but as it has been useful for us to see it. This type of reasoning often prompts a familiar objection to the possibility of the construction of sensory data. It is that raw physiological experiences, such as stepping on a nail or tasting a piece of fruit, are not subject to mediation, as they are low enough on the sensory/cognitive hierarchy to only require basic physiological processing. Although seemingly cogent, I hope to show that this argument does not hold much water. In what follows, I point out a few prominent examples of this relativity inherent in experience. I overturn the notion that a commonality in physiology necessarily entails identical experience specifically by showing that no experience is "just" physiologic and free from the higher-level cortical influences of expectations, beliefs, concepts, emotions, categories, presuppositions, social training, memory, etc.

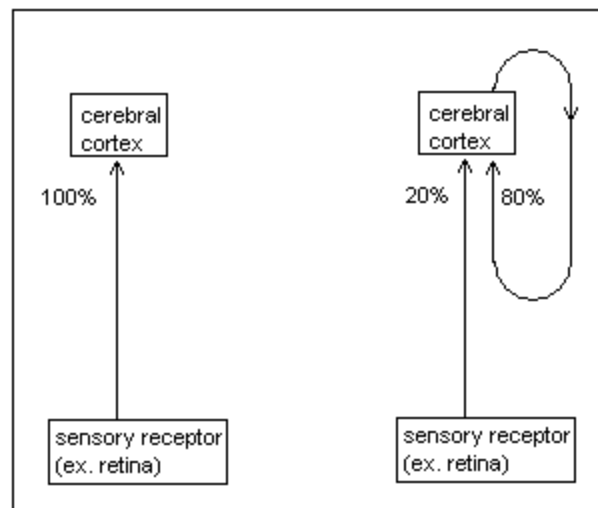
First, even processes as basic the perception of color, a seemingly expectation independent process, cannot escape these processing mechanisms. We have long known that an object's "color" is always dependent on what colors were seen immediately before it and the other colors surrounding it in such a way that the very hue and brightness of the same stimuli can change drastically based on which colors are presented before it, and which colors surround it. These phenomena are called simultaneous color contrast and successive color contrast, respectively (McIlwain 1996, 191). In addition to these physical influences on perception, the following simple experiment exemplifies the filtering mechanisms of the nervous system. Take the mundane example of taste (gustatory) sensation and ask ourselves whether the taste of a glass of water is the same for everyone. Aside from the argument for the privacy of subjective states (addressed later), I think many would assert that water would taste the same for everyone with normal gustation simply because, well, water is water and we all have the same genetically evolved gustatory physiology. However, a simple

experiment that anyone can try on a friend proves this to be a naïve position to hold for all people in all places. As soon as participants drink from opaque cups and are told that they are drinking water with a small amount of orange juice, a significant number of these participants respond affirmatively to having tasted something somewhat sweet, tart, or orange-like even though all will have tasted nothing but water. Similar experiments can be done with a variety of other stimuli and in many different contexts. For example, one could tell participants that they are being offered orange soda, while giving them a glass with visibly orange water, which only had orange food coloring added to water. These examples demonstrate some of the deep underlying relativistic principles integral to the study of sensory experience.¹

Thus, physiology, rather than locking us into certain universally conserved experiences, actually can be implicated to account for this contingent range of experiences. One of the most telling facts is that these accounts of expectation radically modifying one's experience may have a basis in the very ways that sensory systems are structured. Canonically, sensory systems are organized by having some kind of receptor (the retina, for example) of information take in sensory information and relay that to the brain and sensory cortex² in a largely unidirectional and upwards manner with information being processed in different ways (parallel distributed processing(PDP)) as it ascends to the brain.

Though not an entirely false conception, it is merely one in which many of the subtle complexities of sensory processing are absent. Let's take the visual system as an example. One such complexity in processing information is the fact that rather than having the visual cortex receive information directly from the retina, it actually receives as much as 80% of its input *from itself* (Figure 1) (McIlwain 1996, 112).³

Figure 1: (left) The traditional view of sensory reception from receptor to cerebral cortex, in which 100% of the input to the sensory cortex is from information about the environment. (right) The presently predominant model for sensory reception, with only approximately 20% of input to the sensory cortex coming from the actual sensory receptor (retina, eardrum, etc.), and a disproportionate amount of the input arising from the cortex itself.



This means that the brain, in a way, is modulating its own input, and this may account for the ability of expectations and other antecedent realities to affect experience so subtly. As incredible as this formulation may sound, possibly the most remarkable aspect of this explanation may be its popularity and consistency. This same organization of information processing is found in the auditory as well as somatic sensory (touch, temperature, pain) systems and may therefore account for the pervasive nature of context-dependent awareness and experience (Bear et al. 2001, ch.11, 12).

It is very easy for us to slip all the way to the opposite end of the spectrum, and conclude that all experience is person and context-relative and constructed. However, any serious account shows that neither of these extremes is fully representative of actual experience in the world. Rather, we are confined, to a certain extent, to the types of experiences we may have in certain situations (i.e. tasting a fluid is very rarely likely to provide auditory perceptions), yet, within certain biological confines, there are greatly varied ways in which the same stimuli may be perceived by the nervous system (i.e. tasting orange in its absence, exaggerating temperature, etc.) based on expectations, beliefs, context, etc. Therefore, it seems that not only do context and concepts affect even the most purely physiological of experiences in profound and important ways, but these experiences obtain their very memorable character from the variant contexts from which they emerge.

This relationship between concepts and experience also need not imply that each and every concept one hold will necessarily play a role shaping each and every experience one has. This would misrepresent the constructivist position by assuming that it must maintain such an extreme position on the relationship between concepts and experience. Surely, not all of our experiences in the world would change with every new notion learned, but only those experiences would be affected that are directly related by webs of association and networks of memory to the concepts in question. Therefore, we would not expect expectations about a ringing doorbell to affect our gustatory experience of water in the same way that we would expect expectations about the taste, consistency, sweetness, etc. of the water to access certain webs of association and modulate the actual experience of that water. The depth of these networks and breadth of these webs can be debated, but for the purposes of this discussion, I believe it is sufficient to assert that, in a similar vein, we would not expect a change in concepts unrelated to religious notions to affect mystical experience in the same way that we would expect divergent and revolutionary understandings of tradition-specific metaphysical and moral notions to alter and reorient the way we experience mystical states whose cultivation often depends on these frameworks. (Moore 1978 and Gimello 1978 present and expand upon some of the many related concepts that may play a role in the construction of mystical experience.) Additionally, this constructivist position, even if it understands all experience to be interpreted, does not necessarily entail a denial of parallels in experience across religious traditions. Parallels surely do exist among religious concepts, and therefore, the constructivist merely has to assert that the extent to which one mystic's experience parallels another mystic's is the same extent to which each mystic has commonalities in concepts, expectations, beliefs, etc.

Stein quotes Balbir Singh as saying, "...it is not possible to attain *knowledge* of ultimate reality. Hence, the emphasis...on a direct and immediate apprehension of the real ever abiding in its own existence and essence" (6). Again here we see the similar strategy in confronting stated limitations of human knowledge: simply posit, as a way out of a contextual impasse, the possibility of unmediated experiential contact in addition to limited human intellect. The key distinction that must be made, and that is patently clear from the neurosciences, is that an "apprehension of the real" *is a type of knowledge* and therefore subject to the same cognitive filters that shape all information that is processed through the brain.

Given our understanding of the nervous system, Stein's statement that "one does not merely *know* the truth; one *realizes* it or has direct and immediate experience of it" (6) collapses upon itself. The distinction between knowing something and realizing something through experience are subsets of a larger category of interacting with our environment (even if in a dynamic way) and any realization, however seemingly devoid of representational content and categorical filtering, must be transmitted

to our consciousness (or unconscious) through our brains. He says, "...humans, as conscious beings, experience infinitely more than ever will rise to the level of our awareness" (4). This certainly is true, but it does not mean that such unconscious experience is necessarily unmediated. (See Marcel 1988, Marshall 1988, and Weiskrantz 1974 and 1997 for examples of unconscious/implicit information processing and learning)

A Note on Subjectivity

If one does not find these appeals to neuroscience compelling for the position against unmediated experience, there is another position that at least must bring us towards neutrality or agnosticism on such issues of unmediated experience and panpsychism. I have mentioned some of my qualms about the unfalsifiability and non-empirical nature of panpsychism, but there is a larger issue here as well. A large body of scholarship exists in phenomenology, and philosophy generally, to remind us that some modesty may be required when claiming certainty of knowledge about such irreducibly subjective and private states of consciousness (Nagel 1979, McClamrock 1992). How can I really know what you are experiencing as you read this sentence? Or during a religious experience? Or for that matter, what an atom of copper's is experiencing? If we acknowledge this caveat of the intractable problem of subjectivity and impenetrable shell of first-person privacy, then we must doubt any claims for certain knowledge about the possibility of panpsychism and unmediated experience with God. This is not to say that such unmediated experience (or panpsychism) is impossible, only that we cannot know if it is.

Conclusion

When we step back and place Stein and process mysticism in the contexts of other attempts to posit unmediated experience, his approach appears even more troubling. Some philosophers of mysticism and religion, often called the perennial philosophers (Huxley 1944, Smith 1976, Stace 1960, Forman 1990, Schuon 1975 and others) argue for unmediated experience at one far end of the bell curve of experience and only possible in rare *sui generis* mystical states that are somehow demarcated off from the normal rules of perception and cognition that apply to everyday life and to everyday people. While this thesis is heavily opposed as well, Stein's is much less defensible. He expands the limits of unmediated experience from just during the most unique of mystical experiences to *all* mundane experiences as an "existential cross section of the experienced world" (5). I wonder why Stein feels the need to construct forced alternatives between an "atomistic view of experience" and a "vitalistic view where experience is no longer seen as something that happens to us but rather something we live through" (6). Can't our experience of the world be described with both of these active and passive lenses?

I would argue that, at best, we must heed the call for epistemological humility in making claims about other minds. At worst, Stein's assertion for immediate and uninterpreted experience is unfounded, and even if taken at face value is problematic in light of challenging opposition views from philosophy of mind and the neurosciences. If even the most simple of perceptual tasks always have a cognitive character that is dependent on our past, so too does Stein and Schrag's "phenomenal complex of being-in-the-world" (6).

Thus, what Stein calls "epistemic baggage," namely that Western notions of experience are associated with knowledge, actually turns out to be integral in the ways in which our brain processes the world. Rather than conceiving of experience needing to be "liberated from its servitude to

representational thought" (Schrag 1969, 127) we come to understand representational thought and our inherited or acquired conceptual categories as fundamental and imbuing our experience of the world with organizational schemata, weight, and meaning.

BIBLIOGRAPHY

- BAGGER, Matthew C. *Religious Experience, Justification, and History*. New York: Cambridge University Press, 1999.
- BEAR, M.F., Connors, B.W., Paradiso, M.A. *Neuroscience: Exploring the Brain*. 2nd Edition. Lippincott Williams & Wilkins, 2001.
- CHALMERS, David J. "On Consciousness and the Philosophers," 1997.
(<http://www.u.arizona.edu/~chalmers/book/searle-response2.html>)
- _____. *The Conscious Mind*. New York: Oxford University Press, 1996.
- _____. "Facing Up to the Problem of Consciousness," *Journal of Consciousness Studies*, (2) 3, 1995, pp. 200-219.
- CHALMERS, David J. and Searle, John R. "'Consciousness and the Philosophers': an Exchange," *New York Review of Books*. May 15, 1997.
- CHOMSKY, Noam. *New Horizons in the Study of Language and Mind*. Cambridge: Cambridge University Press, 2000.
- DENNETT, Daniel C. *Consciousness Explained*. Boston: Little Brown, 1991.
- _____. "The Unimagined Preposterousness of Zombies" in *Brainchildren*. Cambridge, Mass.: Bradford Books, 1995.
- _____. "Facing Backward on the Problem of Consciousness," *Journal of Consciousness Studies*, (3) 1, 1996, pp. 4-6.
- FORMAN, Robert K.C. *The Problem of Pure Consciousness*. New York: Oxford University Press, 1990.
- GIMELLO, Robert, "Mysticism and Meditation" in *Mysticism and Philosophical Analysis*, edited by Steven Katz. 170-199. New York: Oxford University Press, 1978.
- GRIFFIN, David Ray. *Religion and Scientific Naturalism - Overcoming the Conflicts*. Albany, NY: State University of New York Press, 2000.
- HART, W.D. *The Engines of the Soul*. Cambridge University Press, 1988.
- HICK, John. "Mystical Experience as Cognition." in *Understanding Mysticism*. Edited by Richard C. Woods, 422-437. New York: Image Books, 1980.

- HUXLEY, Aldous. *The Perennial Philosophy*. New York: Harper and Row, 1944, rpt. 1970.
- KANDEL, E.R., Schwartz, J.H. and Jessel. *Principles of Neural Science*. New York: Elsevier Science Publishing Co., Inc, 2000.
- KANT, Immanuel. *Critique of Pure Reason*. Translated and edited by Paul Guyer and Allen W. Wood. New York: Cambridge University Press, 1998.
- KATZ, Steven T., "Language, Epistemology and Mysticism." in *Mysticism and Philosophical Analysis*, edited by Steven Katz, 22-74. New York: Oxford University Press, 1978.
- KIRK, R. "Why there couldn't be zombies," *Proceedings of the Aristotelian Society*, Supplementary Volume 73, 1999, 1-16.
- MARCEL, Anthony J. "Phenomenal Experience and Functionalism." In *Consciousness in Contemporary Science*, edited by Anthony J. Marcel and Edoardo Bisiach, 121-158. Oxford, Clarendon Press, 1988.
- MARSHALL, John C., and Halligan, Peter W. "Blindsight and Insight in Visuo-Spatial Neglect." *Nature*, 1988(336), 766-767.
- MARTON, Peter. "Zombies versus Materialists: The Battle for Conceivability," *Southwest Philosophy Review*, 1998 (14), 131-138
- MCCLAMROCK, R. "Irreducibility and subjectivity." *Philosophical Studies*. 1992(67): 177-92.
- MCILWAIN, J. T. *An Introduction to the Biology of Vision*. New York:: Cambridge University Press, 1996.
- MOORE, Peter. "Mystical Experience, Mystical Doctrine, Mystical Technique." in *Mysticism and Philosophical Analysis*, edited by Steven Katz, 170-199. New York: Oxford University Press, 1978.
- NAGEL, Thomas. *The View from Nowhere*. New York: Oxford University Press, 1986.
- _____. "What is it Like to Be a Bat?" in *Mortal Questions*, by Thomas Nagel. Cambridge, Cambridge University Press, 1979), 165-180.
- NORWICH, K.H. "To Perceive is to Doubt: The Relativity of Perception." *Journal of Theoretical Biology*. 1983(102), 175-190.
- OTTO, Rudolf. *Mysticism East and West*. Translated by Bertha Bracey and Richenda C. Payne. New York: MacMillan, 1932.
- _____. *The Idea of the Holy*. Translated by John W. Harvey. New York: Oxford University Press, 1923, rpt. 1950.
- PENNER, Hans H. "The Mystical Illusion." in *Mysticism and Religious Traditions*, edited by Steven Katz,

- 89-116. NY: Oxford University Press, 1983.
- PINKER, Steven. *How the Mind Works*. New York: Norton, 1997.
- PROUDFOOT, Wayne. *Religious Experience*. Berkeley: University of California Press, 1986.
- RAMACHANDRAN, V.S. and Blakeslee, S. *Phantoms in the Brain: Probing the Mysteries of the Human Mind*. New York: Quill, William Morrow, 1998
- RAYE, C.L., Johnson, M.K., Mitchell, K.J., Reeder, J.A. and Greene, E.J. "Neuroimaging a Single Thought: Dorsolateral PFC Activity Associated with Refreshing Just-Activated Information." *NeuroImage*. 2002(15), 447-453.
- REED, J., Squire, L.R., Smith, E., Jonides, J., and Patalano, A. "Learning About Categories that are Defined by Object-like Stimuli in the Absence of Declarative Memory." *Behavioral Neuroscience*. 411-419, 1999.
- REVONSUO, A. and Laine, M. "Semantic Processing Without Conscious Understanding in a Global Aphasic: Evidence from Auditory Event-Related Potentials." *Cortex*. 1996(32), 29-48.
- ROLAND, P.E., Larsen, B., Lassen, N.A., and Skinhoj, E. "Supplementary Motor Area and Other Cortical Areas in Organization of Voluntary Movements in Man." *Journal of Neurophysiology*. 1980(43):118-136.
- SCHRAG, Calvin O. *Experience and Being*. Evanston: Northwestern University Press, 1969.
- SCHUON, Frithjof. *The Transcendental Unity of Religions*. Translated by Peter Townsend. New York: Harper & Row, Torchbooks, 1975.
- SEARLE, John R. (1997). "Consciousness and the Philosophers," *The New York Review of Books*, 44 (4), pp. 43-50.
- SEARLE, John R. and Chalmers, David J. "'Consciousness and the Philosophers': an Exchange," *New York Review of Books*. May 15, 1997.
- SMITH, Huston. *Forgotten Truth: The Primordial Tradition*. New York: Harper and Row, 1976.
- STACE, W.T. *Mysticism and Philosophy*. New York: Macmillan, 1960.
- STEIN, Ross, "On the Possibility of an Immediate Experience of God" *Journal of Liberal Religion*. Summer 2002.
- THOMAS, Nigel J.T. "Zombie Killer," in *Toward a Science of Consciousness II: The Second Tucson Discussions and Debates*. Stewart R. Hameroff, Alfred W. Kaszniak, & Alwyn C. Scott (eds.). Cambridge, MA: MIT Press, 1998, pp. 171-177.
- WEISKRANTZ, L., Warrington, E.K., Sanders, M.D., and Marshall J. "Visual Capacity in the Hemianopic Field Following a Restricted Cortical Ablation." *Brain*. 1974 (97), 709-728.

_____. *Consciousness Lost and Found: a Neuropsychological Exploration*. Oxford: Oxford University Press, 1997.

ENDNOTES

¹ For general properties which underlie such experiments, see: Norwich, K.H. "To Perceive is to Doubt: The Relativity of Perception." *Journal of Theoretical Biology*. 1983(102), 175-190.

² This is the outermost layer of the brain, which is highly developed in humans and accounts for our higher level processing abilities

³ More accurately, the retina projects to the thalamus, located lower in the brain, and the thalamus then projects to the visual cortex. Of the input to the thalamus, only 20% is from the retina, the rest comes largely from visual cortex in a top-down projection.