Grasping at Ontological Straws: Overcoming Reductionism in the Advaita Vedānta—Neuroscience Dialogue

Stephen Kaplan

Contemporary neuropsychology reveals that the parietal lobe contains neurons that are specifically attuned to the act of grasping and this act may be fundamental to the establishment of the phenomenal boundaries between subject and object. Furthermore, alterations to this process, such as the hypoactivation of this region during meditation or the hyperactivation associated with schizophrenia, may eliminate or confuse, respectively, the phenomenal boundaries between subject and object. Traversing disciplines, the Advaita Vedānta school of Hinduism traces some of its key terms for subject and object to the verbal root grah, to grasp. The subject is literally the grasper. Furthermore, the practice of asparśa yoga, the yoga of no-touch, is aimed at stopping, hypoactivating, the grasping process in order to transcend all subject–object boundaries. This paper will argue that while we have not uncovered an identity of thought, we have uncovered a confluence of ideas between these two disciplines. We will see that this confluence of ideas...
has not pitted the believer against the critic—not forced us into the great reductionism debate that has dominated so much of the interchange between religious studies and the sciences. This case study will illuminate some of the methodological ways around this reductionism battle and also the boundaries of both disciplines for the intellectual benefit of each.

A RECENT SERIES OF ARTICLES in the *JAAR* describe some of the major issues that the field of religious studies has been facing, specifically as related to the use of the sciences, the cognitive sciences in particular. In one of the articles, Edward Slingerland states that “[i]n religious studies, there has been extremely strong resistance to those who advocate applying evolutionary analyses or the tools of cognitive science to the human phenomenon of religion” (2008a: 379). Slingerland associates this resistance with a “fear of reductionism” (2008a: 379), a reductionism that would eliminate dualism and force us to adopt a non-dualist model of the human person. He proposes a non-eliminative reductionism which recognizes emergent levels of human meaning. Slingerland is convinced that this proposal would ensure the possibility of ongoing discussions between the sciences and religious studies.

Responding to Slingerland in the same issue, Cho and Squier (2008a) accept Slingerland’s point that the use of the cognitive sciences is a productive tool for understanding religious phenomena, but they reject the reductionism which Slingerland proposes. And, in a separate article in the same issue, these authors frame for us the ongoing methodological debate which pits the study of religion between “critics” and “caretakers,” between “believers” and “reductionists” (Cho and Squier 2008b: 426–427). In framing this methodological debate within the context of the “constructed nature of religion,” Cho and Squier state that, too often in these debates, “[i]t is stipulated that scholars of religion have one of two options relative to their object of study: Either one engages in reductive explanations of religion and deconstructs the category itself, or one consents to the theological proposition that religion is true” (2008b: 426). While Slingerland is willing to embrace a form of reductionism and the latter two scholars wish to avoid being “blinded by scientific reductionism,” all of these authors contend that religious studies need not, should not, but often does find itself pitted against a reductionistic scientific materialism, in which “… the war is all about the (in)validity of religious claims in competition with scientific ones” (Cho and Squier 2008b: 427).

Since all sides express support for the serious engagement of the sciences with religion, in the following pages I will present a cross-
cultural, interdisciplinary analysis on grasping and its relationship to the development of subjectivity. This analysis will engage the neurosciences, specifically an understanding of the functions of the parietal lobe, and the Advaita Vedanta school of Hinduism with its understanding of the unfoldment of the subject-object relationship. This study will not grant epistemological primacy to either one of these disciplines. It will not, as so often is the case, use the neurosciences as the etic tool to dissect the body of Advaita thought into neuroscientific tidbits. On the other hand, nor will it presume that neuroscience is only one of the paths leading to the revealed truth that the Advaitins proclaim. Avoiding the epistemological reductionism of either discipline to the other is a major methodological goal of this paper.

From the prospective of this research project, three immediate points need to be made in response to the preceding scholars. First, while I would not debate Slingerland and the others regarding the strength and the significance of the resistance to the cognitive sciences among many in the field of religious studies, I do believe that such resistance is presently declining. A full discussion of this issue would demand another paper entailing an extensive literature review. Second, and related to the first point, I believe that the following project is a concrete example of the type of endeavor that the authors above should embrace. Nothing in the following analysis on the unfoldment of subjectivity pits the believer against the scientists; nothing will force us to choose between scientific materialism and religious proclamations. Rather, the following study, which will highlight discrepancies, differences, and confluences between these two radically different methodological approaches, enables each of these disciplines to reflect upon itself in order to advance its own self-understanding. Just as the value of studying another religion is embodied in the saying, “one who knows only one, knows none,” so also we will find that studying only one discipline limits one’s knowledge of the subject matter of that discipline. This comparative study will illuminate the boundaries of both disciplines for the intellectual benefit of each.

1 One can note the willingness to engage the cognitive sciences from those in Buddhist studies although this enthusiasm is consistently tempered by the problem of eliminative reductionism. See, for example, Varela et al. (2000), Houshmand et al. (1999), and Wallace (2007). There is also an enthusiasm for the neurosciences from those in Christian thought, like Nancy Murphy (1998), who hold a non-dualist view of the human person. The battle for those in the latter camp is not with the neuroscientific community whose insights they have adopted but rather their battle is with the Christian community that holds firm to a dualist view of human nature, an immortal soul, and a promise of an afterlife independent of a resurrection. From a different perspective, John Hick (2006) engages the reductionism found in contemporary philosophy and neuroscience.
Third and finally, while the fear of the neurosciences in the field of religious studies is aptly described by Slingerland as a fear of reductionism associated with adopting a non-dualist view of human nature, this study will avoid that pitfall for two interrelated reasons, and thereby help us to reflect upon the underlying presuppositions of this fear. First, we will disclose that the ontological presuppositions, which underlie the fear of reductionism to which Slingerland refers, do not apply to Advaita Vedānta, even though these presuppositions aptly describe vast swatches of western theology and philosophy. Advaita Vedānta affirms a non-dualistic philosophical–theological position. As we will see, it rejects the notion of a dualism between mind and body as well as a dualism between God/sacred and the world/profane. These two forms of dualism, so important in the history of western theology, have been the soil in which so much of the religion–neuroscience debate has thus far developed and they have given rise to the “fear of reductionism” to which Slingerland refers. The following study between Advaita and the neurosciences will allow us to reflect upon the cultural, theological parameters in which this debate has been developing.

Second, and even more significant, the following reflection on the Advaita position shows that this fear of reductionism presumes that all conversations between the neurosciences and the religious studies must wind their way to a discussion of the ontological nature of human existence—that is, to questions like: is human nature dualistic, non-dualistic, or does it take some other form? As long as the conversations and dialogues between these two fields revolve around this ontological issue, the discussions will be limited, although not necessarily unimportant; those engaged in these discussions will find it impossible to break away from the concomitant reductionism debates. However, this addiction to the “ontological question” can be broken. Breaking this addiction will demand a change in the way that comparative, interdisciplinary studies are conducted. The questions that we are looking to answer must change, and therefore the type of research in which we engage and which produces those questions must change.

There is more to the fields of religious studies and neuroscience than an ontological discussion of human nature. The neurosciences are more than an attempt to reduce mind to brain. In fact, rarely, hardly ever, almost never, do neuroscience journals engage such questions! Advaita Vedānta has much to say about the ontological nature of human existence, but it also has much to say about many other subjects—perception, inference, scripture, logic, linguistics, rituals, and so forth. When we in religious studies engage the neurosciences by reading the more conceptual, philosophical, theoretical, and/or “popular”
pieces, we become enmeshed in the ontological-reductionism debates described above. Likewise, when members of the scientific community look at the world’s religions and discover, for example, the “nature of all mystical experience, East and West,” then they may find themselves enmeshed in the same ontological debates about human nature that we have been describing. We need to move the conversation between these disciplines away from this issue, at least some of the time. We can only do that by stepping back from the macro picture, which deals with these grand ontological questions, and engage specific issues within each field that cut across the disciplines. The following analysis of the functions of the parietal lobe and the Advaita theory of perception, as both relate to the issue of grasping, will serve as one such project and therefore will allow us to turn the page on the reductionism debate.

SETTING THE STAGE FOR TURNING THE PAGE

With the publication of Why God Won’t Go Away, Eugene d’Aquili and Andrew Newberg made a national splash appearing, for example, in Newsweek (1-29-01) and The National Catholic Reporter (4-20-01), appearing also on Fresh Air with Terry Gross (PBS-NPR: 20 June 2001). This work, similar in content but more popular in style than their previous book, The Mystical Mind, and their peer-reviewed publications, brought to the public’s attention the notion that individuals practicing meditation could be examined scientifically using SPECT analysis. That particular aspect of their work is part of their larger project of “neurotheology,” which attempts to understand theological issues from a neuropsychological perspective. In their hands, we are lead to conclude that myth, ritual, the idea of God, and mystical experiences are all rooted in particular neurological functions, which are biogenetically structured. Their analysis also leads them to propose a typology of mystical experiences that includes (1) a Unio Mystica, “in which the presence of a personal deity is perceived” (2001a: 122ff) and (2) an experience of Absolute Unitary Being (AUB), which they envision as the ultimate state of consciousness which is without subject–object dichotomy. These experiences are hierarchically ordered, with the latter understood to transcend the former, and each state is correlated.

---

2 Both The Mystical Mind and Why God Won’t Go Away were published after the passing of Eugene d’Aquili. For a partial list of their works, particularly the more recent publications of Newberg, see the reference pages.

3 SPECT analysis stands for single-photon emission computed tomography analysis. This will be discussed in greater detail in the second section of the paper.
to different neurophysiological conditions. As such, the stage is set by these publications to engage in an interdisciplinary conversation in which both the reduction of consciousness to brain states and a typology of mystical experiences must be debated. While d’Aquili and Newberg do not want to reduce mystical experiences to brain states and offer reasons to avoid this reductionism, the “fear of reductionism,” to which Slingerland alerted us, becomes a serious topic of discussion for them (1999: chap 6; Newberg et al. 2001a: chap 8). Also put on the table is their hierarchical, typological analysis of the world’s mystical experiences. In their hands, a typology is readily crafted and those mystical experiences associated with the category of unio mystica are explained to lag behind in their ability to reach the ultimate state of consciousness and being (2001: 159ff). Here again, we find ourselves encountering an interdisciplinary endeavor that focuses upon ontological issues that define not only the nature of the human person, but also the nature of ultimate reality.

As I indicated earlier, this paper does not intend to directly engage the issues of mind/brain reductionism, the ultimate nature of consciousness, or the nature of ultimate reality. Rather, I want to focus on an issue not routinely discussed among the findings of d’Aquili and Newberg, a topic apparently much more mundane: the role of the parietal lobe in developing an individual’s sense of spatial orientation. More specifically, I will explore the notion that the parietal lobe contains neurons that are specifically attuned to the act of grasping; furthermore, that this act may be fundamental to the development of the notion of subject and object. Quoting d’Aquili and Newberg:

The right parietal lobe appears to play an important role in creating a sense of spatial coordinates and body location, the left orientation association area exerts influences with regard to objects that may be directly grasped and manipulated .... Therefore, it seems likely that the “self-other” or the “self-world” distinction that philosophers and theologians have discussed throughout the ages may be a function of the left orientation association area that evolved from its more

---

4 While I am grateful to the work of d’Aquili and Newberg, including not only the aforementioned books, but their other publications as well, there are a number of issues about which greater clarification seems to me to be needed and there are issues with which I disagree. With regard to the latter, their phenomenology of mystical experience (1999, chap 6) is contrary to the position expressed in my publications, and the works, for example, of Steven Katz (1978). Therefore, my reference to their research at this point should not be taken as an acceptance of their research agenda.
primitive ability to divide objects in space into the graspable and the nongraspable. (1999: 34)

Could the neurophysiological roots of the self-other (subject–other) dichotomy be grounded in the act of grasping?5

Contemplating this question led me to rethink something that I had examined countless times, but had never before seen in the following way. I began to rethink my understanding of the Advaita Vedānta notion of the subject–object dichotomy.6 Specifically, I began to reexamine the fact that Advaita Vedānta traces some of its primary terms for subject and object to the verbal root, grah, to grasp.7 The subject, grāhaka, is literally the grasper; the object, the grāhya, is literally the grasped; and the act by which both unfold is the act of grasping, grahan.8 But, as we will see, there has been almost no discussion within the literature on Advaita about the philosophical significance of this etymological root. This is an absence that I must also acknowledge in my own work. In the following pages, we will try to ascertain if the notion of grāhaka–grāhya is the Indian philosophical correlate to the insights of the neurosciences?

In attempting to unfold the philosophical significance of grāhaka–grāhya, our attention will be focused upon Gauḍapāda’s Māṇḍūkya Kārikā (MK). Gauḍapāda, approximately sixth- to seventh-century CE, is said to have been the paramaguru (teacher’s teacher) of Śaṅkara, the most famous Advaitin.8 The MK appears to be the first extant text of

---

5 While the neuropsychological literature cited throughout this paper routinely utilizes the term “self,” the term “subject” will consistently be employed here. In the context of a discussion of the neuroscientific literature, exceptions will be made for linguistic consistency. The former term presents, for different reasons, a bit of a translation problem for both the Advaita and the Yogācāra schools. “Self” has an ontological connotation for both of those schools and that is not the concept that is being investigated either from a neuropsychological perspective or from an Indian perspective.

6 As an exercise in comparative religions, this project exemplifies, successfully or not, J. Z. Smith’s notion that “…comparison, in its strongest form, brings differences together within the space of the scholar’s mind for the scholar’s own intellectual reasons. It is the scholar who makes their cohabitation—their ‘sameness’—possible, not ‘natural affinities or processes of history” (1990: 51).

7 In the third section of the paper, I will trace the Advaita use of grāhaka and grāhya to Yogācāra Buddhism; thereby illustrating that these terms have a wide use in Indian philosophy.

8 There are a number of historical uncertainties and controversies surrounding Gauḍapāda and the MK. First, questions have been raised about the identity of Gauḍapāda as the author and the dating of this text. Arguments regarding the latter usually range between the fifth and seventh centuries of the CE, in relation to not only Śaṅkara, but to Buddhist such as Asanga and Vasubandhu on the early side and Bhāvaviveka on the later side of the composition of the text. Second, questions have also arisen regarding the authenticity of some of the four books that comprise the MK as currently constituted and the original order in which these four books were
the Advaita Vedānta tradition; as discussed below, it develops in intellectual conversation with Yogācāra Buddhism. The text lays out some of the major themes of Advaita thought—namely, the nature of non-duality, non-origination (ajātivāda), ātman/brahman, the four states of consciousness, māyā (illusion), and avidyā (ignorance). Gauḍapāda tells us that all (reality) is the non-dual, unchanging, unborn, not-dying ātman/brahman, Being and consciousness (sat and cit). As such, Advaita declares that the experience of change and the concomitant experience of the duality of subjects and objects are only māyā (illusion). These experiences of duality are rooted in avidyā (ignorance); for Gauḍapāda, all such experiences of duality arise in grasping. The commitment to this duality of subject and object is the fundamental problem of human existence. It is the cause of rebirth, the perpetuation of saṃsāra. In order to end the cycle of rebirth, one must realize that there is no duality, nor change, that non-origination (ajātivāda) is the highest truth (paramārtha) and this truth is known in the fourth state of consciousness, turiya—a state of consciousness without subject (grāhaka) and object (grāhya). In addition to this ultimate state of consciousness (the fourth state), there are three other states of consciousness—namely, waking, dreaming, and dreamless sleep.

To the best of my knowledge, Advaita Vedānta says nothing about the parietal lobe and I am certainly not suggesting that Advaita is a form of cognitive neuroscience. It is not. Neurophysiology textbooks do not invoke the terms māyā or ātman. I am also not treating cognitive neuropsychology as a form of religion, whatever grand world-view one may wish to attribute to the discipline. These are different disciplines, different intellectual traditions, and different methodological endeavors. Nonetheless, it appears that both Advaita Vedānta and contemporary neurosciences deal with the idea of a grasper and the role of grasping in developing a sense of subject—in developing the notion of a subject in relation to an object. In addition, we will see that each of these divergent disciplines discusses the possibility that alterations to the process of grasping, understood either in neurophysiological terms or as a composed. Suggestions to reverse the presentation of the four books (Tilmann Vetter 1978: 107ff) reveals a third controversy surrounding the MK—namely, its relation to Buddhist thought and whether this is (1) a crypto-Buddhist text, (2) a text attempting to transform Buddhism into Advaita, or (3) some position in between these poles. Finally, the authenticity of the bhaṣya (commentary) attributed to Śaṅkara has been questioned as well. The Advaita tradition maintains its authenticity and some scholars see it as an early work of Śaṅkara. A preliminary investigation of the appearance of the terms grāhyagṛāhaka in the MKBh.s and other texts more definitively attributed to Śaṅkara lead me to speculate that the MKBh.s is an early work of Śaṅkara’s. For a fuller discussion of the first three issues, see Potter (1981: 12 ff) and King (1995, chap 1).
phenomenology of mind for Advaita, leaves the individual with a profoundly altered sense of subjectivity. According to both of these disciplines, a diminution of the process of grasping can eliminate the boundaries between the subject and the object. In other cases, both of these disciplines inform us that an excitation to the “normal” process of grasping may alter the subject–object boundaries such that the subject confuses himself with the apparent object. In other words, we will see that according to both Advaitins and neuroscientists, a “normal” process of grasping seems to provide one with a standard presentation of subject–object relations, but “too much grasping” leads one to confuse the subject with the object, while “too little grasping” seems to make subject and object disappear from consciousness.

Will a grand confluence between the “scientific west” and the “mystical east” be uncovered, or will we arrive at something less than that? Could this be an interdisciplinary project that does not end up in a battle between believer and critic? Will this project be able to turn the page on the reductionism debate? In order to answer these questions, this paper first explicates the position of each of these disciplines on the issue of grasping and the presentation of the subject as grasper.

THE PARIETAL LOBE: A BIT OF BACKGROUND, A NOTION OF SELF AND GRASPING

By way of introduction, the parietal lobe is one of the four lobes of the cortex—namely, frontal, parietal, temporal, and occipital. It is located behind the frontal lobe, anterior to the occipital lobe, and is situated above (superior) the temporal lobe. More specifically, the parietal lobe is posterior to the central sulcus, an anatomical valley within the cortex at the posterior region of the frontal lobe, and it is superior to the lateral fissure (Purves et al. 1997: 10). The parietal lobe spans both the right and the left hemispheres of the brain; with regard to the hemispheric specificity of the functions of the parietal lobe, the functional divisions between the right and the left hemispheres of the brain seem to hold true here as well (Turk et al. 2003: 75).9 Thus, the right is more oriented toward spatial relations and the left more oriented toward analytic interpretation. In addition, the parietal lobe is itself anatomically subdivided into anterior, posterior, inferior, and superior with each region having specific functions. Further subdivisions of the parietal

---

9 For example, Turk (2003: 75) informs us that the right superior parietal lobe plays a key role in representing spatial information in allocentric terms, whereas the left superior parietal lobe plays the key role in presenting spatial information in egocentric terms.
lobe are enumerated by Brodmann areas. Several of these areas, specifically Brodmann’s 3, 1, and 2, constitute the “primary somatosensory cortex, a functional area of the parietal lobe” (Felten and Jozefowicz 2004: 24). The descriptions of the parietal lobe that follows will generally not include this level of anatomical specificity and this lack of specificity will be an issue to which we must return in the conclusion.

The parietal lobe is that part of the cerebral cortex most associated with receiving neural inputs regarding sensory information from the various parts of the body. In more technical terms, it is the somatosensory information processing region. This section of the brain is meticulously arranged, with each area of the postcentral gyrus corresponding to a particular part of the body. This isn’t to imply that “feeling” is confined to the parietal lobe. We can experience touch, pain, and pressure at areas lower down in the brainstem. But in such instances our localization is faulty. A patient with a parietal lesion will react to a pinprick in his or her hand, but the patient won’t know that the pin is pricking the hand as opposed to say, the foot. The parietal lobe has to be intact to do that. (Restak 1984: 10–11)

The amount of parietal cortex devoted to a particular area of the body is proportionally concomitant with the sensory acuity of that region. As such, more cortical area is devoted to fingers and mouth than to the back of one’s leg.

In this context, “phantom limb” experiences provide us with a window into the role of the parietal lobe in the presentation of our sense of body. Individuals who have lost a limb may still believe that the limb exists, may still feel pain in the limb, and may still believe that they can move that limb, all because the parietal lobe is providing such information in spite of the physiological absence of this limb. V. S. Ramachandran describes this phenomenon in relation to a patient, John. “When John decides to move his phantom arm, the front part of his brain still sends out a command message, since this particular part of John’s brain doesn’t ‘know’ that his arm is missing—even though John ‘the person’ is unquestionably aware of the fact. The commands continue to be monitored by the parietal lobe and are felt as movements. But they are phantom movements carried out by a phantom arm” (Ramachandran and Blakesless 1999: 45).10 As opposed to

---

10 As this quote indicates, the parietal lobe, like all other parts of the brain, is not an isolated functional unit. The parietal lobe functions in interaction with other parts of the brain and this must be remembered in spite of the focus in this paper on this one section of the brain.
claiming you have a limb that you do not have, damage to the parietal lobe may also lead one to believe that a limb, which is physiologically attached and intact, is not one’s own limb. Patients with such deficits to the parietal lobe have been known to demand that the limbs of “these strangers” be removed from their bed (Ramachandran and Blakesless 1999: 247). These two brief examples begin to call our attention to the issue of subjectivity. In both cases, the parietal lobe provides us with a sense of our self as an embodied individual; furthermore, we can discern from the quote above (Ramachandran and Blakesless 1999: 45) that we have more than one sense of subject. There is John who knows his arm is gone, and there is John whose parietal lobe tells him his arm is there. Both Johns must be taken seriously.

The parietal lobe not only provides us with a sense of our own bodies as spatial; it also provides us with a sense of our bodies in space and in spatial relationship to other bodies. In this regard, the parietal lobe is critical to the formation of a multi-modal representation of space. “The average person”—namely, those of us who have no parietal lobe impairments or those of us who are not neuroscientists of one sort or another—assume the “ordinary presentation” of a coordinated spatial world. In this multi-modal, coordinated spatial presentation, the “average person” does not question the neurobiological marvel by which, for example, the auditory click of the keyboard, the tactile touch of one’s fingers on the keyboard, and the visual image of the black keys with the white letters are all experienced in the same phenomenal space at the same phenomenal time. What a marvel! Three different sense modalities, with three different types of sense data, are all somehow coordinated and organized into one sensory picture that not only locates all those elements at a certain distance from one’s eyes and ears, but locates the rest of one’s body in a particular somatic configuration, i.e., seated upright with feet crossed under one’s chair. The parietal lobe coordinates this multi-modal representation of space and as such provides us with a holistic sense of space. Andersen not only confirms this point about the parietal lobe providing us with this holistic sense of space needed for perception, he also highlights the role of the parietal lobe in coordinating motor activities.

As part of the sensory-motor transformation process, signals from many different modalities need to be combined in order to create an abstract representation of space that can be used to guide movements. We reviewed evidence that the posterior parietal cortex combines visual, auditory, eye position, head position, eye velocity, vestibular, and proprioceptive signals in order to perform spatial operations.
These signals are combined in a systematic fashion by using the gain field mechanism… Our holistic impression of space, independent of sensory modality, may be embodied in this abstract and distributed representation of space in the posterior parietal cortex. Likewise, our awareness of our internally generated wills and intentions to make movements may also be a correlate of the planning activity in the posterior parietal cortex. (Andersen et al. 1997: 327)

How could we move toward an object, grasp an object, if we did not have this sense of space?

Concomitant with this discussion and extremely important to it, the parietal lobe gives us our sense of an embodied subject in a world of embodied objects. The neurophilosopher Patricia Churchland frames this point as follows: the parietal lobe “… appears to provide the fundamental ‘objects-out-there-external-to-my-body’ organization crucial for primate sensory-motor representation and control” (2002: 309). Ruby and Decety conclude from their research on the parietal lobe that “… a limited number of brain areas may be specifically involved in self/other distinction, namely right inferior parietal lobe, precuneus and somatosensory cortex” (2001: 546). And, more recently, they have concluded “[t]here is a mass of converging evidence from several complementary research domains to suggest that the right inferior parietal lobe plays a key role in the process of self/other distinction (2003: 2479). As we have seen, alterations to the brain’s normal operations, either through trauma or disease, have revealed startling psychological phenomena and provided numerous insights to the neurophysiological functions of specific parts of the brain that are affected by the disease or trauma. Two additional situations yield insights particularly relevant to this project and each will be reviewed below. First, an examination of the right inferior parietal cortex during passivity experiences offers a window into the construction of the subject–other dichotomy as individuals with hyperactivity of this region attribute their own thoughts to others.12 Second, a review of Balint’s syndrome, which entails the hypoactivation of regions of the parietal lobe, offers an inverse window into the construction of this subject–other dichotomy.

11 In this context, see also MacDonald and Paus (2003: 963). “This pattern occurred for both the right- and the left-hand gestures, and is consistent with a view that (the left) posterior parietal cortex is necessary for distinguishing actions generated by self from those generated by others, particularly when only subtle differences exist between movements.”
12 The neuropsychological literature also refers to “depersonalization experiences” (Philips et al. 2005: 1).
First, passivity experiences are understood to be ones in which an individual attributes a subjective experience to an external or third party. These experiences may involve attributing thoughts or voices to a third party rather than recognizing such activities as self-generated. For example, we find the following descriptions in the neuroscientific literature:

Passivity delusions comprise the belief that one’s thoughts or actions are being influenced or replaced by those of an external agent (e.g. a spirit or a machine) (Mellor 1970)... Firth (1992) has hypothesized that such findings reflect a deficit in “internal monitoring”; patients do not recognize their own thoughts and actions as being internally generated and instead attribute them to alien entities. (Spence et al. 1997: 1997)

Five of the seven schizophrenics in the index group reported vivid experiences of passivity (alien control) while performing motor tasks during the first scan session; experiences such as “feeling like an automaton,” “guided by a female spirit who had entered me” and “spirits moving my shoulder.” (Spence et al. 1997: 2000)

Such experiences and behaviors have been associated with some schizophrenics. It must be clear that the association between schizophrenia and the activity of the parietal lobe is not presented here as a causal relationship; in fact, if neurophysiological causality for schizophrenia were to be attributed to a part of the brain, it appears that the prefrontal cortex may play a significant role (Guyton and Hall 2006: 745). Focusing on passivity experiences as one type of experience that some schizophrenics endure, it appears that such experiences are correlated with the hyperactivity of the parietal lobe. Specifically, “[t]he presence of delusions of control was associated with over-activity in the right inferior parietal cortex. Moreover, activity in this region returned to normal levels when the schizophrenics were in remission” (Blakemore and Frith 2003: 222). The data supporting this correlation between the hyperactivity of the parietal lobe and passivity experiences has been corroborated by a number of other research teams. For example, we find the following by Ruby and Decety:

The right inferior parietal cortex is activated when subjects watch other people in an effort to imitate them. Moreover a patient with an abscess in the right parietal cortex has been described, in a neuropsychological case study, to have believed that his body was being controlled by external forces. This patient made statements such as “My head is empty.” “I have no thoughts,” and “I feel hypnotized.”
Schizophrenic patients show hyperactivation of the right inferior parietal cortex, and experience passivity as compared to healthy subjects during the performance of freely selected joystick movements. It was proposed that such abnormal responses in the parietal lobe cause the misattribution of self-generated acts to external entities. (Ruby and Decety 2001: 548)\textsuperscript{13}

This last phrase, “misattribution of self-generated acts” is a truly fascinating statement for those of us (the proverbial “average persons” again) who routinely accept the natural givenness of the multi-modal nature of embodied subjectivity and the clarity of the subject–object boundaries. We, average persons, should not forget that the hyperactivity of the parietal lobe, as described above, can radically alter our sense of embodied subjectivity, causing the “individual” to believe that their actions or their thoughts are not in fact their own actions or thoughts.

The second example is drawn from Balint’s syndrome, which also provides us with some insight into the functioning of this part of the brain. Specifically, it reveals how the brain accomplishes part of its binding problem, whereby sensory and somatic information are unified into a single, coherent experience of the world. Bilateral damage to the posterior parietal cortex produces Balint’s syndrome in which almost all spatial information can vanish from one’s awareness. The syndrome includes three main symptoms (Robertson 2003: 96). It includes (1) simultanagnosia, which is the inability to cognize more than one visual object at a time, (2) optic ataxia, which limits the individual’s ability to alter their gaze from one object to another object, and (3) optic apraxia, which interferes with one’s ability to reach for an object in its correct location. In reviewing a patient with Balint’s syndrome, Lynn Robertson describes the condition as follows:

The most extreme example of binding errors occurs when both parietal lobes are damaged, resulting in a condition known as Balint’s syndrome, in which spatial information can disappear almost completely ... Although patients with this condition continue to perceive one object (but only one, a symptom known as simultanagnosia) at any given moment, they do not know where it is located. They act as though they have no external spatial reference on which to hang the objects they see. Obviously, if the brain no longer completes a spatial map, the use of space to localize, individuate and select for attention should be impossible. (Robertson 2003: 94)

Almost all of us localize, select, and individuate objects in relation to a plethora of other objects that stand before us and, most significantly, in relation to our own body—our own self—without ever giving the process a second thought. It is the marvel of our neurophysiology and neurochemistry that allows us to perceive oneself as individuated from others—as a subject in a world of objects.

The consequences of Balint’s syndrome and the studies examining the hyperactivity of the right inferior parietal cortex illustrate to us that the phenomenological presentation of the subject–object dichotomy is a neurophysiological construction. On the one hand, the destruction of parietal matter leading to Balint’s syndrome entails, in non-technical language, the hypoactivation of those cerebral regions and this condition, as we have seen, results in a diminishing of normal subject–object relations. On the other hand, the studies reviewing the condition resulting from the hyperactivation of the parietal lobe also confirm the notion that this area is involved in the establishment of the subject–other dichotomy. Here, it seems that too much activity—namely, an inappropriate amount of activity—in this section of the cortex, produces an aberration in the “normal” subject–object experience. Specifically, some schizophrenic subjects with patterns of hyperactivation of the parietal lobe appear to “misattribute” that which others attribute to them. That which arises from the brain/mind/self of the individual with this parietal lobe alteration seems to that individual to not be their brain/mind/self. The individual is schizo-phrenic—of split mind—attributing what should be attributed to their own mind/self to the self of others, be it God, the devil, or the dog next door.

Returning to the research of d’Aquili and Newberg on the neurophysiological correlates of meditation, one finds a fascinating connection to the issues just reviewed. Using SPECT analysis of individuals engaged in meditation has lead them to conclude that meditation, of at least certain types, may lead to the “deafferentiation” of the parietal lobe—in other words, to a shutting down of input to the parietal lobe. These researchers contend that such deafferentiation is concomitant with the arising of a mystical state of consciousness, which they refer to as AUB.

The state consists of an absolute sense of unity without thought, without words, without sensation, and without being sensed to inhere in a subject. We have proposed that total deafferentation of the posterior superior parietal lobule, especially on the right, results in this state. This area of the mind/brain is responsible for the orientation of objects in three-dimensional space. If it is denied of all input as a result of mechanisms generated during profound meditation, it creates
a sense of pure space. Since space has subjective reality only if it relates things to each other, the subjective experience is one of total spacelessness or of total perfect unity. It is interesting, as we have noted earlier, that there is evidence that the posterior superior parietal lobule in the left hemisphere may be responsible for the self-other dichotomy. During profound meditation, we have proposed that the posterior superior parietal lobule on both sides is totally deafferented, resulting not only in the sense of absolute space, but in the obliteration of the distinction between self and other. (1999: 183)

Incorporating d’Aquili and Newberg’s analysis with the research into the functions of the parietal lobe discussed above, one arrives at the notion that the parietal lobe when functioning “normally” presents the individual with a sense of embodied subject in a world of external-to-me-objects. Furthermore, when the parietal lobe becomes altered from this “normal pattern”—either hyperactivated or deafferentiated—the boundaries between subject and other radically change.

To conclude this section on the parietal lobe, I return to d’Aquili and Newberg’s synopsis of the role of the parietal lobe in grasping. While other research teams have confirmed the parietal lobe’s role in grasping (for example, Joseph 1996: 449; Colby 1999: 106; Anderson and Buneo 2002: 190; Kalaska et al. 2003: 97), the following quote presents the conclusions of d’Aquili and Newberg.

The right parietal lobe appears to play an important role in creating a sense of spatial coordinates and body location, the left orientation association area exerts influences with regard to objects that may be directly grasped and manipulated. Further, it seems that in the left orientation association area, some neurons respond most to stimuli within grasping distance, whereas other respond most to stimuli just beyond arm’s reach. It is such evidence that has caused some researchers such as Rhawn Joseph to postulate that the distinction between self and the world may ultimately arise from the left orientation association area’s ability to judge these two categories of distance—objects within grasp and objects beyond grasp. Therefore, it seems likely that the “self-other” or the “self-world” distinction that philosophers and theologians have discussed throughout the ages may be a function of the left orientation association area that evolved from its more primitive ability to divide objects in space into the graspable and the nongraspable. (1999: 34)

---

14 By the same authors, see also their discussion in Why God Won’t Go Away (2001a: 119ff).
15 On this point, one can also see Rhawn Joseph (1996: 449, 459, 469ff) and James Austin (2000: 216) who says: “Our parietal circuits pay close attention to ‘Where?’ questions. For example ‘Where is that apple?’ True, outside stimuli inform many of our parietal visual, auditory and tactile
It seems that we have arrived at the notion that some neurons in the parietal lobe attuned to grasping present us our normal sense of subject and other; while the shutting down of those neural units present us with the loss of that distinction.

Before proceeding, two points of caution must be sounded. First, it should be acknowledged that some neuroscientific questions have been raised about the d’Aquili/Newberg project and those in religious studies cannot blithely ignore such details. Specifically, Michael Spezio (2001) questions the neuroscientific terms used to label the changes in blood flow uncovered during the SPECT analysis of meditators. He objects to d’Aquili and Newberg’s use of the term deafferentiation—a cutting off of input to the area—and proposes instead hypoactivation—a shutting down of the area (2001: 481–482). The outcome of this debate should be watched, but either position confirms my point in the preceding analysis—namely, that there is a decrease in blood flow in the parietal lobe during these meditative experiences.

Second, while research has consistently confirmed the parietal lobe’s role in presenting a unified sense of space as well as the phenomenological sense of an embodied subject in relation to external objects, one cannot assume that this is the only sense of self that is operative in human beings. Other researchers focus on different notions of self as fundamental to individuals, such as an autobiographical self or an executive self. It is not my intention to assert that all neuroscientists have now come to the conclusion that the parietal lobe is the source of the only significant concept of self/subject. A number of leading members of the neuroscientific community seem comfortable with multiple notions of self rooted in differing neuropsychological functions, with none taking absolute precedence.

functions. But other circuits, more intuned, address such specific queries as: ‘Where are the parts of my own physical body, my hand, my fingers?’ Our parietal lobe responds to that last intimate question by attending to personal messages from the ‘inside’. It can register the precise position of our bodies’ muscles, joints and tendons. Hence the term proprioceptive stimuli meaning one’s own. The parietal lobe integrates these, our internal, sources of information with sensate data entering from the outside. Now this embodied brain ‘knows’ how far to reach to grasp that apple on the table.”

16 Spezio’s review (2001) of their project cites a number of points including an examination of their underlying biogenetic structuralism and the fact that none of the meditators who were observed actually experienced a state of AUB. His discussion on the nature of SPECT analysis and its inability to target specific neurons, rather than a wider neurological field, also bears upon their specific proposal.

In spite of these cautions, we have seen that the parietal lobe seems
to play a crucial role in the development of the experience of the embo-
died subject/self in relationship to others as objects, so that alterations
in the “normal” functioning of the parietal lobe lead to alterations in
one’s sense of subject; furthermore, that neurons attuned to grasping
may be essential to the development of this notion.

ADVAITA VEDĀNTA: GRASPING AND THE NOTION
OF SUBJECT AND OBJECT

In this endeavor to produce a cross-cultural, interdisciplinary analy-
sis of grasping, we now turn our attention to Advaita Vedānta, one of
the major theological/philosophical systems of Indian thought. Three
elements in Advaita philosophy should be examined before raising a
few questions about these two divergent fields and their possible con-
fluences. The first element concerns the history of the etymological
roots of the terms grāhaka–grāhya. Second, we will see that the
relationship between the grasper, the grasped, and the grasping entails a
phenomenology of mind and perception. Finally, the role of asparśa
yoga—the yoga of no-touch—will be presented in order to reveal that
one cannot realize the highest state of consciousness without stopping
the movement of the mind as grasper and as grasped.

The verbal root grah\textsuperscript{18} means to grasp, to seize, to take (as taking
one’s hand in marriage), to perceive (with a sense organ or with the
mind) (Monier-Williams 1974: 371). For Advaita, grasping refers not
only to all tactile relations but includes the other sense modalities as
well. For example, the \textit{Brhadāranyaka Upanisad} (\textit{BrU}Bh 1997: 3.2.1–9)
informs us that there are eight graspers and these include the out-
breathe, speech, tongue, sight, hearing, mind, hands, and skin. In the
following discussion, three primary forms of this verbal root are impor-
tant to this discussion. It appears as grāhaka with the suffix, ka, provid-
ing the sense of the individual perceiver. Second, it appears as grāhya,
as that which is to be grasped, perceived, seized. It also appears as
grahaṇa as grasping, perceiving, seizing. The coupling of grāhaka and
grāhya—the perceiver and the perceived, the subject and the object—is
our primary concern. Sanskrit, being a language rich in epistemological
nuance, has a number of other terms that it uses if one wishes to ident-
ify an ontological subject (ātman, jīva) on the one hand or a material
object (vastu) on the other hand as opposed to an epistemological or

\textsuperscript{18} According to Whitney (1945: 40), this verbal root may also be given as grabh and grah.
phenomenological subject or object (Potter 1978: 21). As we shall see, the choice of this verbal root will provide us with the strong sense that the subject and object (grāhyagrāhaka) are those related to cognitive processes. In addition, the MK utilizes other forms of the verbal root grah including the terms, grhitam—grasped or perceived—and nigṛhitam—controlled or suppressed.19 The latter term, with its prefix ni as an intensifier, is used with reference to the process of yoga that is being recommended in this text and as such, we will return to this notion. Before proceeding, it should be noted that Advaita texts frequently use other paired terms to develop the notion of subject and object. These terms include nouns derived from the verbal root pramtr (to know) and drs (to see), for example.

Examining the various translations of the terms grāhya and grāhaka in the MK and in other Advaita texts will reinforce the epistemological and phenomenological nature of these terms. As will be noted below, most translations of these terms utilize either “perceiver and perceived,” “cognizer and cognized,” “knower and the object of knowledge,” or “subject and object.” Each of these translations is perfectly reasonable and each reinforces the phenomenological nature of the concepts under discussion. In spite of the reasonableness of such translations, they routinely obscure any reference to the etymological root, grah, from which this subject–object dichotomy unfolds and hence do not explore the significance that might be drawn from utilizing this etymological root.20 A review of six published translations of the MK reveal that none translates the nominative forms of grah—specifically, grāhya and grāhaka—by referencing the notion of grasping.21

For example, we find the following translation of Gauḍapāda’s MK (1989: 4:72) by Vidhushekara Bhattacharya. The underlined English words are those that represent Bhattacharya’s translation of grāhya and grāhaka. (The italicization is provided by Bhattacharyya for the Sanskrit terms.)

---

19 See, for example, MK (1989: 2:9–10, 3:35, 3:40, and 4:35).
20 I have found one notable exception to this trend in the German scholarship on Advaita—namely, the very fine work of Tilmann Vetter (1978: 114ff). Vetter translates grāhaka–grāhya with the terms Erfassendem and Zuerfassendem, respectively. Erfassen has the meanings of to seize, to grasp, to comprehend.
21 Included in this list are Nikhilānanda (1955), Karmarkar (1973), Bhattacharya (1989), Wood (1990), Gambhirānanda (1995), and King (1995). It should be noted that two of these authors translate verbal forms of grah with variations of “to grasp” (King 1995: 246; Wood 1995: 34), but on the specific appearances of grāhyagrāhaka, the reference to grasping is not present.
This duality which consist of the subject and the object (lit. the percei-
ver and the perceptible) is only the vibration of the citta “mind”. citta 
has no object, therefore it is said to be always asaṅga “having no 
attachment (or relation to an object).” (1989: 172)

Bhattacharya’s textual and linguistic analysis on the MK is unquestion-
ably first class. His notes that accompany each verse of this work 
provide a thorough examination of the MK’s textual history, especially 
its relationship to Buddhist thought. Nonetheless, nowhere does 
Bhattacharya expand upon the etymological root of the “perceiver and 
perceived,” nor on the significance of this root.

This pattern of translation is also repeated with regard to other 
parts of this text and other Advaita texts that utilize different forms of 
the root gṛah. For example, one can cite two very fine scholarly trans-
lations of important Advaita texts to illustrate this point—namely, 
Sengaku Mayeda’s translation of Śaṅkara’s Upadeśasāhasrī (US) and 
R. Balasubramanian’s translation of Sureṣvara’s The Naiśkarmyasiddhi 
(NS). In each of these cases, no reference is made to the etymological 
root, gṛah; no reference is made to why this verbal root was chosen; no 
reference is made to the epistemological and phenomenological signifi-
cance of this term. One example is worth citing because it will illus-
trate a number of related points. In the US Śaṅkara tells us: “Saying that 
[the notions of the intellect] are manifest of themselves alone, and that 
[they] are of themselves alone perceivers (gṛāhaka), the Buddhists deny 
the existence of a perceiver (gṛāhaka ) [other than the notions them-

nityam asaṅgam tena kīrtititam/. All subsequent Sanskrit references to this text and translations 
will be taken from this volume.


[24] The exceptions to this pattern appear to lie predominantly with reference to Vasubandhu and 
the Yogācāra tradition, particularly among those scholars who express a non-idealistic reading of 
this tradition (Kochumuttom 1982; Lusthaus 2002).
such extraordinary esteem, seems remarkable to me now, although I had not previously noticed it.

The terms grāhaka–grāhya need to be located, however briefly, in their historical–philosophical context in order to understand Gauḍapāda’s position. Vasubandu, the Yogācāra Buddhist of the fourth-century CE, stands out among his antecedents.²⁵ In the MV/MVBh (1984: 1.1) Vasubandhu informs us that duality is grāhaka–grāhya and this duality is abhūtaparikalpita (the imagination of the unreal).²⁶ That which we imagine to be the ontological subject and the ontological object are merely the grasper and the grasped, the phenomenological subject and object. As such, this duality is the imagination of the unreal. In addition, Vasubandhu informs us that this duality unfolds with sense knowledge, through the sense faculties, the sense elements, and the different types of sense consciousness. In MV/MVBh (1984: III: 17), Vasubandhu tells us that the elements (dhātus) of eye, etc. are the seed-objects (bijārthas) related to the grasper (grāhaka); while the elements of form etc. are the seed-objects related to the grasped (grāhya); and, the element of the consciousness (vijñāna) of eye, are related to the seed-objects of grasping (grāha).²⁷ Thus, this segment of the Yogācāra tradition unequivocally asserts three points that we will see reappear in Gauḍapāda and the Advaita tradition. First, the fundamental human problem is the appearance of the duality of the grasper and the grasped. Second, this presentation of duality is associated with sense perception. And third, the highest truth, the ultimate aim of the religious life, cannot be realized until the nature of the duality of grāhaka–grāhya is realized.²⁸

One example from the Advaita literature following Gauḍapāda will illuminate the three issues just raised. In the commentary on the MK attributed to Śaṅkara, grāhaka–grāhya are invoked to explicate passages within the MK which do not utilize these terms. MK 3:29 exemplifies this.

²⁵ The similarities between Vasubandhu and Gauḍapāda have long been noted on a number of issues and an examination of Gauḍapāda’s use of grāhaka–grāhya reinforces this connection. For a discussion of this issue see, for example, Kaplan (1992, 2002) and King (1995). It would be my contention that Vasubandhu and Gauḍapāda share epistemological and phenomenological positions but differ in their ontological and metaphysical positions.


²⁸ See, for example, MV/MVBh (1984: 1:6).
As owing to māya the mind in dream moves with appearance (or image) of the two (viz., the percipient and the perceptible, or in other words, the subject and the object), so owing to māya the mind in the waking state moves with the appearance of the two. (MK 1989: 3:29)29

This verse makes reference to the appearance of the two—literally, dvayābhāsam—but it does not include a reference to grasping, nor does the text actually identify the two as “the percipient and the perceptible, or in other words, the subject and the object” as Bhattacharya adds in the translation just cited. Śaṅkara informs us that this appearance of duality is the “grāhyagrāhākarūpenadvayābhāsam,” literally, “the appearance of duality with the form of perceiver/grasper and perceived/grasped” (MKBh.s Šamvat 2026: 3:29). According to the commentary, the mind assumes the forms of the grasper and the form of the grasped in both the waking and the dream states. To assume that this duality of grasper and grasped is other than the mind is māya, an illusion. Śaṅkara, like Vasubandhu, is linking the fundamental problem of human existence to the notion of grasping.

Returning to Gaud. apāda’s MK (1989: 4:72), discussed above in regard to Bhattacharya’s translation, we can now see that Śaṅkara commentary to MK (1989: 3:29) mirrors Gaud. apāda’s phraseology in 4:72. Gaud. apāda says: “This duality in the manner of the grasper and the grasped is only the movement of the mind” (cittaspanditaṁ grāhyagrāhakavad dvayam). Gaud. apāda, like Śaṅkara and Vasubandhu, identifies the duality of the mind—namely, the appearance of duality—with the grasper and the grasped, which is concomitant with the movement of the mind (cittaspandita). In fact, this duality is nothing but the movement of the mind. He compares the movement of the mind with a whirling firebrand that presents the image of a circle of fire.30 In the second half of the verse, Gaudapāda states the mind is without an object (nirviṣayam). One needs to understand this declaration in light of the previous line—namely, that the mind has assumed both the form of the subject and the form of the object, the grasper and the grasped; therefore, the object that is experienced is not the external object. It is the mind as grāhya. Understood in this light, one can see that this


30 “As a firebrand being moved appears to be straight, or crooked, and so on, even so the mind when it moves appear as the perceiver (i.e., subject) and the perceptible (i.e., object)” (MK 1989: 4:47).
duality of grāhya–grāhaka is tied to a phenomenology of mind and perception.

The classical presentation of the Advaita theory of perception (pratyakṣa) appears in the Vedāntaparibhāṣā (VP) of Dharmarāja (fourteenth century). This theory of perception maintains, among other things, that the object as it is known is the mind (antahkaranā) in the form (vṛtti) of the object; while simultaneously, the mind takes the form of the knower or grasper (pramātr, grāhaka). This bifurcation of the mind into knower and known entails, for Advaita, that the mind goes out through the sense organ into the world. Dharmarāja tells us:

Here just as the water of a tank, going out through a hole and entering fields through channels comes to have, even like those (fields), a quadrangular or other figure, similarly, the internal organ too, which is of the nature of light, going out through the sense of sight, etc. and reaching the locality of contents like [clay] pot, is transformed into the form of contents like pot. [Vṛtti means a mental transformation, a particular perception]. (VP 1971: 1:18)

The Advaita theory maintains that the internal organ (antahkaraṇa) only has to leave the body in visual and auditory perception for the modification (vṛtti) of the mind (antahkaraṇa) to occur. In the other sense modalities, the object to be perceived is in contact with the body. This bifurcation of the mind into that which is grasped and that which is the grasper presents a phenomenal world that is simultaneously “over-there” and “over-here.” It is the movement of the mind in its act of grasping that presents the basic spatiality of “me” and “not-me,” even though for Advaita, both grāhya and grāhaka are none other than the mind that is grasping. (Recall here Mayeda’s comment on US (1992: I, 14: 3) in which he discusses Śaṅkara’s theory of perception in terms of the notion of the mind pervading an object.)

For Gauḍapāda and the Advaita tradition, the presence of “me” and “not-me”—the grasper and the grasped—that arises in this act of grasping is the fundamental ignorance (avidyā) that is the root problem of the human condition. It is also one of the meanings of māyā, illusion. In the commentary to MK (1989: 1:16), in which Gauḍapāda discusses the notion of māyā, Śaṅkara states that māyā is anyathāgraṇa (the grasping of the non-real) and the non-perception of the real.31 Avidyā obscures knowledge of reality; it obscures knowledge of ātman, the true

---

31 MKBḥs (Samvat 2026: 1:16). yo 'yam samsārī jīvāḥ sa ubhayalakṣaṇena tattvāpratibodhārūpena bijātmanānyathāgraṇaḥ alaṁkṣaṇena ca.
self; it obscures knowledge of the fourth state of consciousness, a state of pure consciousness without subject and object, without beginning, middle, and end. This description of the state of consciousness that Advaita is proclaiming is remarkably similar to the state of consciousness and the account of how this state of consciousness arises, that d’Aquili and Newberg refer to as the state of AUB, described above.

Gauḍapāda declares that the way to reach this state of consciousness is through asparśayoga. Sparśa, deriving from the verbal root sprś (to touch or contact), has the sense of contact made by tactile relations as well as the wider sense of contact made by all the sense organs. Asparśa means no contact or touch and asparśayoga is therefore the yoga of no-contact. Gauḍapāda proclaims that one should meditate on the mantra om in order to bring the mind to stillness. He wants to stop the movement of the mind (cittaspandita) and fixing the mind on this mantra will do that. When the mind no longer moves there is no contact, no touch, no grasping; then, the appearance of the perceiver and perceived, the grasper and grasped, will cease. At that point, for Gauḍapāda, the mind becomes no-mind (amanibhāve) and one realizes the highest truth (paramārtha), the true self, ātman, the state of consciousness without subject and object. In Gauḍapāda’s words:

Where there is no thought there is neither apprehension or abandonment (of any object). At that time the mind (jñāna = citta) rests in itself, is unborn and attains to the state of sameness. This is what is called “contactless concentration” (asparśayoga), very difficult to be realized by all yogins; the yogins shrink from it seeing fear where (in fact) there is no fear. (MK 1989: 3:38, 39) [Underlined added to indicate graho in the Sanskrit.]  

---

32 “Touch (sparśa) is perhaps the most basic of the five sense-faculties (excluding the mind (manas), that is sometimes treated as a sixth sense-faculty in India …. Arguably, one could lose any one of the other four senses and yet still grasp the idea of “externality.” However, if one had no sense of touch it is doubtful that the boundary between “self” and “other” would have developed at all. Certainly the ability to make a distinction between oneself as subject and everything else as object seems to be based to a greater or lesser degree upon the concept of “externality”; a concept that we derive from our tactile experience of bodily boundaries. Equally, if there is no sense of touch, there can be no feeling of pain. Thus, “asparsa” is also connected to the soteriological aim of the cessation of suffering (duhkha)” (King 1995: 141).

33 MK (1989: 3: 40, 41) in describing asparśayoga inform us that this yoga demands the “control of the mind.” This is Bhattacharyya’s perfectly reasonable translation of manaso nigrahas whose root is obviously graha.

34 MK (1989: 3:38, 39), graho na tatra natsargaś cintā yatra na vidyate/ ātmasamsthāṁ tadā jñānam ajāti samatāṁ gataṁ// asparśayogo nāmaśa dūrdarśaḥ sarvayogibhiḥ/ yogino bibhyati hy asmād abhayē bhayadarśināḥ//
Gauḍapāda says nothing here about the parietal lobe, but he is certainly calling for the hypoactivation of the mind in its roles of grasper, grasped, and grasping.

CONCLUSION
Cautions and Reflections, Methodological and Theoretical

This conclusion needs to address three issues. First, it must be clear that there is no identity of thought between these two schools; however, it does appear that a fascinating confluence of ideas has been uncovered. Second, we need to recognize that Advaita need not be fearful about this confluence of ideas. It does not raise the red flag of reductionism to the Advaitin in ways that it might to others, specifically to those that Slingerland described earlier in this paper. As such, the fear of reductionism that was described above need not be a part of all conversations between the neurosciences and religion. Finally, the fruits of self-reflection that result from this interdisciplinary analysis should be articulated in order to allow us to see that disciplinary self-reflection often demands looking outside one’s own discipline.

First, the confluence of insights between Advaita and contemporary neuropsychology should not be confused with an identity of thought, and any attempt to imagine a grand comparative schema between these two disciplines must be met with skepticism about which others have already cautioned us (Patton and Ray 2000). The Advaita phenomenology of perception is based upon the notion of projection—namely, that the mind “goes out” and takes the form of the object. The neuroscientific literature that has been cited above does not include any such notion, nor do I imagine that those authors would endorse such a notion.35 A further note of caution pertains to the term “grasping.” As noted earlier, for Advaita, grasping refers not only to all tactile relations but includes the other eight sense modalities as well, Brhadāranyaka Upaniṣad (3.2.1-9). On the other hand, neurophysiologists are apt to distinguish experimentally each of the aforementioned functions and further delineate, for example, the functions of reaching and grasping. Reaching and grasping have different cortical correlates (Colby 1999: 106; Kalaska et al. 2003: 97). Therefore, we must be very cautious about

35 The notion of projection within the neuroscientific community is not without precedent however as one can cite the work of the renown neuroscientist, Karl H. Pribram (1977) who proposed a holographic theory of brain/mind that entails a projectionist theory of perception of sorts. No claim is being made here that Pribram’s theory is identical to the Advaita theory.
taking two words that appear in different conceptual systems and assuming an identity of meaning.\textsuperscript{36} Nonetheless these cautions do not leave us bereft of theoretical insights into the nature of subjectivity. This comparative study reveals that both Advaita and neuropsychology contend that the experience of a “subject over-here” and “objects-out-there-external-to-my-body” (Churchland 2002: 309) is a constructed process, not a merely given fact. Advaita declares this subject and object construction to be grounded in the movement of the mind, in its grasping. In this movement, the mind takes the form of the subject and the object. The neuroscientific community reveals to us the significant relationship between the parietal lobe and our sense of embodied subjectivity. Furthermore, both disciplines illuminate for us that alterations to the process of grasping, defined either as a phenomenology of perception or as a function of the parietal lobe, lead to alterations in the notion of “myself-in-relation-to-objects-in-the-world.” From the neuroscience perspective, too much activity in the parietal lobe and we are not sure who is the subject of experience; decrease the level of activity within the appropriate segments of the parietal lobe and we are not sure if there is a subject at all; keep the parietal lobe functioning in a “normal” pattern and we find ourselves an embodied subject in a world of objects. Similarly, Advaita informs us that when the mind ceases grasping, the duality of subject and object ceases; inversely, when an individual is the object of grasping, he is possessed. Both disciplines lead us to recognize the constructed nature of the subject-other dichotomy and its possible deconstruction in relation to either the cessation/hypoactivation of grasping or the hyperactivation of grasping—the assimilation of being grasped/possessed. Furthermore, both of these disciplines were employed in this paper as epistemological and methodological equals. As discussed earlier, no attempt has been made to reduce the information from one of these disciplines to the expertise of the other discipline.

\textsuperscript{36} Related to these two cautionary notes, the following note of caution can be added. It must be clear that we cannot come to any grand conclusions based upon the similarities between d’Aquili and Newberg’s description of AUB and Gauḍapāda’s description of the fourth state of consciousness. While the similarities seems remarkable, we cannot overlook the fact that the former is taken from literature such as the latter and it is not taken from reports of those meditators examined by d’Aquili and Newberg (1999: 118ff). In fact, there is no report that any of their subjects had that experience (Spezio 2001: 481). This point does not argue for the dissimilarity of these two disciplines as the cautionary notes above have stressed, but rather this point highlights that the research in this area within each discipline is already effected by cross-cultural knowledge.
For those of us in religious studies, this research on the parietal lobe also helps us see that Gaudapada’s notion—namely, that there is no subject without object and neither without the movement of the mind—is no longer merely an abstract philosophical statement. While the nuances of Gaudapada’s ideas will continue to be debated, the concreteness of these ideas, exemplified in phenomena such as Balint syndrome, phantom limbs, and passivity experiences, has been enormously enhanced. Contrary to the existential feeling of the “average person,” who believes that their subjectivity is an indisputable fact independent of any phenomenal objects and is confirmed merely by their thinking it so, this research has disclosed that our sense of subjectivity unfolds only in relation to a phenomenal world of objects and is not a solo act of subject without objects. Both Advaita and the neurosciences attest to that.

From what has just been said regarding the nature of subjectivity, practitioners of Advaita need not fear the neurosciences on this issue. Specifically, the fear of reductionism that Slingerland describes—namely, a fear of reductionism associated with adopting a non-dualist view of human nature—is not pertinent to the Advaitin on this issue. Those who contend that human subjectivity is an inherent property of a mind/soul may fear this analysis, but Advaita is strictly and completely a non-dualist philosophy. The position that Slingerland describes, consistent with much of western thought, confuses mind and consciousness as being on one side of the equation, the side of the equation traditionally associated with the soul, while body and brain exist on the other side of the equation. We can see this in the following passage: “... the mind is the body, and the body is permeated through-and-through with mind. Consciousness, under this understanding, is not a mysterious substance distinct from matter, but rather an emergent property of matter put together in a sufficiently complicated way” (Slingerland 2008a: 378). Mind and consciousness appear interchangeable in this quote. They appear together here as they would in the sort of dualistic analysis prevalent in so much of Western philosophy and theology.

In contrast, for Advaita, from the perspective of paramartha satya, the highest truth, there is only atman/brahman, being and consciousness, sat and cit, non-duality. From an empirical perspective (samvriti satya), Advaita also avoids framing its dualism concerning the human person in the same way as those in Western philosophy and theology tend to frame their dualism. For Advaita, the dualism is between consciousness on the one hand and mind/body on the other hand. From this perspective, it is a mistake to conflate mind and consciousness
since consciousness (cit) here refers to the self-illuminating (svaprikāśa) awareness. For Advaita this consciousness is always without an object (nirviśaya); it is not intentional consciousness, which dominates western thought. It is also without form (nirakāra) since it is the mind (citta/antahkaraṇa) that takes the form of the object. Cit is also for the Advaitin without a particular locus or base (nirāśraya) since it is not attached to or dependent upon a particular entity or person. Cit/sat (being/consciousness) is ātman/brahman.37

This very brief overview of the differences between the Advaita view of mind and consciousness and the contrasting view of mind/consciousness which underlies Slingerland’s analysis is only intended to inform us that the fears that directly support the antagonism Slingerland discerns between religious studies and the neurosciences are not applicable to our case study regarding Advaita. The fears that Slingerland expresses reflect the history of Western philosophy and theology. Different ontological problems may arise down the road between Advaita and the neurosciences, but such difficulties have not interfered with this interdisciplinary project.38

This project has focused its interdisciplinary work on the development of subjectivity, on how one establishes the boundaries between “me” as subject and “the world” as object. I have engaged in a cross-cultural, interdisciplinary, epistemological analysis of the development of subjectivity, which has uncovered differences, discrepancies, and convergences between these two fields. However, nowhere in this paper has the believer been pitted against the critic, the religious against the scientist. I believe that this project has allowed us to think more philosophically about the neuroscientific literature and more concretely, scientifically, about the religious/philosophical literature without forcing either party to display the fangs or fears of reductionism. This project illustrates, I hope, that interdisciplinary analysis between the neurosciences and religion can move away from the ontological questions, and in doing so open up a dialogue rather than engage in a battle.

I believe that this interdisciplinary, cross-cultural research project helps us turn the page on the reductionism debate by changing the nature of the issues discussed. Part of this move has been facilitated, as

---

37 For an overview of these issues regarding consciousness in Advaita and other Indian schools of thought, see Mohanty (1993, chap 6).

38 Specifically, the Advaitins may need to ask: is consciousness a property of Being/Brahman or is consciousness, like mental states, solely an emergent phenomenon from the brain? The preceding question does not present the immediate and impending doom that associating mental properties with particular brain states presents for the dualist.
discussed above, by the nature of Advaita philosophy, but part of this move has been facilitated by the kind of neuroscientific literature which I have engaged. Had this project rested content to discuss d’Aquili and Newberg’s analysis of AUB, then we would have been forced into a discussion about the ultimate nature of consciousness, forced into an ontological debate about the ultimate nature of existence (sat). Instead I have used their presentation as a spring board to investigate the nature and function of the parietal lobe as it relates to the presentation of subjectivity. To turn the page on the reductionism debate, not only is it helpful to have a religious/philosophical position not threatened by a non-dualist position; it is also essential to engage each discipline at a level of discourse that does not immediately appeal to grand ontological issues.

Finally, this interdisciplinary analysis of grasping not only allows us to reflect upon the methodological parameters of the religious studies–neuroscience interchange, which seemed doomed to wallow in the shadow of reductionism; equallyvaluably, this interdisciplinary analysis also provides each discipline with the ability to step outside of its self in order to reflect upon itself. We see ourselves, our own discipline and its proclamations, by looking at another. One example from each discipline will suffice to make this point.

In conversation with members of the clinical and neuroscientific communities, I have found that concurrent references to “schizophrenia” and “mystical states” raises eyebrows of concern and discomfort. Schizophrenia is a legitimate object of investigation, while mysticism is only beginning to be recognized as such; mixing the two seems to taint the former and scare off the latter. While there is no intention here of identifying or conflating these two phenomena, it should be noted, on the one hand, that one of the terms for possession (and epilepsy) in Sanskrit literature is grhita (BrUBh. 3.7.1).39 The etymological connection between the subject/grasper (grāhaka) and the possessed (grhita) is too obvious to need elucidation.40 On the other hand, in light of the neurophysiological data, one might contemplate that both the passivity experiences of the schizophrenic and meditational experiences are related to alterations in the parietal lobe, though clearly not the same alteration. In fact, one of the more interesting insights to be drawn from the neuropsychological literature is that schizophrenia and mystical states are polar opposites. Hyperactivation

39 tasāśidbārany gandharvagṛhita (BrUBh 1997: III.vii.1).
40 For a very fine and thorough examination of possession in South Asia, see Smith (2006).
of the parietal lobe is related to the passivity experiences of some schi-
zophrenics, while hypoactivation of the parietal lobe appears to be
related to diminishing subject–object boundaries, a phenomenon
described by mystics. While many correlations of varying sorts have
been made over the years between mysticism and mental illness, to the
best of my knowledge the neuroscience literature has not connected in
the inverse manner just described the aforementioned connection
between mystical experience and schizophrenia. Those neuroscientists
interested in passivity experiences and the parietal lobe have not been
those neuroscientists interested in mystical experience either as form of
pathology, usually associated with temporal lobe epilepsy, or as a conse-
quence of measurable contemplative practice. This is one way in which
this type of comparative research can provide a perch from which this
discipline can step outside of its normal discourse boundaries to reflect
upon itself.

Such self-reflection is also possible on the Advaita side and provides
valuable insight into Advaita thought. For example, as noted, it is
remarkable that in almost all of the translations of the relevant Advaita
texts as well as the numerous discussions about these terms in the lit-
erature on Advaita, there has been a near-universal omission of any
reference to the etymological root of this set of terms and the philosop-
phical significance of these terms. Translations of Advaita texts using
the terms grāhaka and grāhya routinely provide the completely accepta-
ble but more generic translations of “perceiver and perceived” or
“subject and object.” A discussion revealing that the subject is literally
related to grasping has been absent and the significance of this grasping
in the development of subjectivity has also been absent in the Advaita
literature. Understanding the subject and the object as related to graspi-
ging and as part of the actual process of sense perception reinforces the
position of those who interpret Gauḍapāda, not as an idealist metaphy-
sician declaring that the movement of the mind creates the world, but
rather, as a phenomenologist who is uncovering the nature of subjectiv-
ity. Many have assumed that MK (1989: 4:72), discussed above, which
informs us that the duality of subject/grasper and object/grasped is only
the movement of the mind (cittaspandita), is a declaration by
Gauḍapāda that the mind creates the world. This interpretation of
Gauḍapāda is extremely widespread and includes the aforementioned
Bhattacharya.41 But if, as suggested here, the subject is the grasper and

41 While there is a good deal of debate regarding Gauḍapāda’s relationship to Yogācāra, there
has been little challenge to the notion that he was an idealist. The notable exceptions are Potter
the object is that which is grasped in the process of perceiving/grasping, then ontological idealism may not be the most appropriate interpretation of Gaudapāda’s statement. The debate about Gaudapāda as an idealist is a serious issue within Indian philosophy and the reexamination of the terms grāhaka and grāhya will hopefully add to that debate in future publications. These remarks are not intended to end the debate, but to reignite the discussion.

In concluding, I must admit that in previous publications my own translations of these terms have ignored their etymological root, even though some of these publications focused upon reexamining these very terms in light of the Advaita theory of perception. The value of an interdisciplinary project such as this becomes starkly evident when one realizes that the etymological significance of these terms never seemed important, in spite of several decades of research in this area, until the neurophysiological information became pertinent. In the words of J. Z. Smith (1990: 52), this study, among other things, is a case in which “…[c]omparison provides the means by which we ‘re-vision’ phenomena as our data in order to solve our theoretical problems.”

ABBREVIATIONS


JAAR The Journal of the American Academy of Religion


MKBh.s Māṇḍūkyopaniṣad, Gauḍapādiya Kārikā, Śaṅkarabhāṣya. Gorakhpur, India: Gita Press, 2026.


REFERENCES


<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Title and Edition Details</th>
</tr>
</thead>
</table>
Raghunath D. Karmarkar, trans. and ed. 1973

King, Richard 1995
Early Advaita Vedānta and Buddhism. Albany: State University of New York Press.

Kochumuttom, Thomas A. 1982

LeDoux, Joseph 2003

Lusthaus, Dan 2002

MacDonald, Penny A. and Tomas Paus 2003

Mohanty, J. N. 1993
Essays on Indian Philosophy: Traditional and Modern, ed. by Purusottama Bilimoria. Delhi, India: Oxford University Press.

Monier-Williams, Monier 1974

Murphy, Nancy 1998

Newberg, Andrew B. and Bruce Y. Lee 2005

Newberg, A. B. and J. Iversen 2003

Newberg, Andrew, Eugene d’Aquili and Vince Rause 2001a
<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Year</th>
<th>Title</th>
<th>Publisher/Details</th>
</tr>
</thead>
</table>


