only for the beginner. Among the various authors, there is no across the board agreement on anything, and thus it is useful to see on which points the Buddhists and Christians disagree among themselves, and on which points they agree. There is no chance of being led astray by the single opinion of any one author, because there are so many other opinions on similar topics. As Paul Ingram mentions in the introduction, all the essays are, to a greater or lesser degree, interrelated, and the insights from one set of essays informs the discussion of all the others. The interplay allows the reader to see old ideas in a new light, familiar concepts filling different roles, and staid positions in fresh locations. In this way, this book is an asset for those seasoned scholars working in interreligious dialogue as well.

Lastly, a word about methodology. Clearly, there is no one method of dialogue that characterizes all of the essays, and the methodological diversity of the articles is another advantage of the book. I want to just mention a few of the most interesting approaches. John Keenan's essay, "The Mind of Wisdom and Justice in the Letter of James," is an excellent example of the "Buddhist exegesis" he has popularized in his earlier books, *The Meaning of Christ: A Mahāyāna Theology*, and *The Gospel of Mark: A Mahāyāna Reading*. Thomas Kasulis, in his essay, "Under the Bodhi Tree: An Idealized Paradigm of Buddhist Transformation and Liberation," discusses the way in which the story of Gautama's enlightenment functions as a "spiritual heuristic," rather than a modus operandi. Finally, Alan Sponberg uses the Buddhist understanding of "self" to articulate a Buddhist position on ecology in his essay, "The Buddhist Conception of an Ecological Self."

It is the rare book that lives up to the promise of its table of contents, but this is one book that, upon further exploration, does not disappoint. There are worthy talking points in each and every essay, and ideas of interest for both Buddhists and Christians alike. It is an honorable and estimable tribute to an influential, stimulating scholar, and we the readers are the ones who benefit from the contributors' labor of love.

Consciousness at the Crossroads: Conversations with the Dalai Lama on Brain Science and Buddhism. Edited by Zara Houshmand, Robert B. Livingston and B. Alan Wallace. Ithaca, New York: Snow Lion Publications, 1999. 183 pages. Paperback: $15.95.

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This work is a record of the second Mind and Life Conference, held in 1989. These conferences are held once every two years and were initiated in response to the Dalai Lama's lifelong interest in establishing a serious

dialogue between Buddhism and Western sciences. This conference focused on the study of mind, brain and cognition, and included a number of the leading figures in contemporary cognitive science.

The work reflects the structure of the conference in which a somewhat formal presentation by one of the participants set the ground for an open discussion. These presentations provide a valuable summary of the issues of contemporary cognitive science. Included are:

"Toward a Natural Science of the Mind" by Patricia Churchland;

"Mapping Brain Functions: The Evidence of Damage to Specific Brain Regions" by Antonio Damasio;

"Steps toward an Anatomy of Memory" by Larry Squire;

"Brain Control of Sleeping and Dreaming States" by Allan Hobson;

"Psychiatric Illnesses and Psychopharmacology" by Lewis Judd.

Two additional sections add greatly to the value of the work as a whole. These are two chapters of clarification by B. Alan Wallace, who also served as one of the translators and editors. Both of these provide commentary from the Madhyamaka perspective on issues raised in the course of the discussions. These comments are both informative and well-balanced, seeking to further the dialogue rather than asserting the superiority of one tradition over another.

Taken together these presentations themselves provide a very accessible overview of contemporary cognitive science without falling into a simplistic popularization of the issues. While the conversational tone of the presentations and discussions has been preserved, the work is not simply a transcript of the conversation. Yet, the editing has been so carefully and skillfully done that the result is almost seamless.

Churchland's presentation begins with the reflections of the Greek thinkers Plato and Aristotle that gave rise to inquiry into consciousness, particularly the unity of perception—visual perceptions of shape and color are experienced as parts of the unity of an object: there is unity across the sense modalities such as seeing and touching what is perceived to be the same object, and there is unity of an object over time. A majority of the presentation and discussion is devoted Cartesian mind-body dualism, called "substance dualism."

Three critiques of substance dualism are presented, two negative and one positive. The first is the problem of interaction—how can there be any kind of interaction between two entirely distinct kinds of being, physical and mental? Second is the point that things often seem different from the way they realy are, "Critics argued that even though our experience seems to be very different from the behavior of brain cells, that doesn't mean they *are* different. Seeming to be different is not in fact evidence for things

actually being different" (p. 25). The third critique is the dependence of mental states upon the physical conditions of the brain. Chemicals, electrical stimuli and physical damage all directly effect mental experience. On the basis of these criticisms of substance dualism, Churchland asserts a materialist view in which the mind is simply a state of the brain. In this view, there is a one way causal relation: changes in brain state produce different mental conditions, while there is no reverse effect of thoughts on brain states.

The subsequent chapter, "A Buddhist Response" by B. Alan Wallace, skillfully demonstrates the common assumptions underlying both Cartesian mind-body dualism and the materialist monism maintained by Churchland. The argument basically has been that Descartes proposed an explanation of mind involving two kinds of substance, one of which can be shown to not exist, therefore, the other is the sole explanation. However, dualism and materialist monism are not the only two options. Idealist monism is so out of favor as to not even receive any mention. What Wallace develops, however, is not another option bound within the terms of this approach. Rather, he presents the Madhyamaka view which denies the substantial character of both the mental and the physical.

Damasio's presentation discusses the issue of just how different specific mental functions are from one another, and how they are very uniquely localized in the brain. For example, there is one area on each hemisphere of the brain which are jointly responsible for color vision. Damage of one of these leaves shape and depth perception unaffected, but one half the visual field is seen in black and white.

Squires' discussion focuses on the mechanisms of memory. He identifies two foundational problems for neuroscience: "there is the problem of the inital organization of connections among nerve cells in the brain, and there is the problem of how these original connections can be altered" (p. 78). Where Damasio's presentation dealt with the first problem, the question of memory must deal with the second.

Hobson presents a discussion of how the brain acts differently in the three primary states of consciousness—waking, dreaming and dreamless sleep. This topic drew particular attention to the possibilities and significance of lucid dreaming and dream yoga. The fact that dream contents are highly suggestible leads, however to a problem. It has been shown "that we can teach subjects to dream anything they want to dream about. Therefore, if the dream is taken as important evidence for a psychological or philosophical theory, we encounter the problem of a circular loop. The subject may be dreaming what he expects to dream about in order to prove the theory, and this does not constitute scientific evidence of anything" (p. 101).

Judd's presentation focuses primarily on the physical origins of mental disorders, which he indicates are much more widely prevalent than is commonly believed. The development of detailed diagnostic procedures

has allowed for more effective psychopharmacological interventions. One of the key issues raised in the following discussion is the complex causal situation for a mental disorder such as major depression. It is neither purely a physiological matter, nor purely experiential, but rather involves both "a genetic vulnerability and an environmental stressor. Major depression is a complex interaction between one's inherited constitutional givens, and environmental events that elaborate and precipitate manifestations of the depressive disorder" (p. 129).

One of the most important issues for contemporary cognitive science is raised by Robert Livingstone in the discussion. This is the issue of the persistent and perhaps unavoidable use of metaphors for describing the workings of the mind. The metaphors employed always draw on the forms of technology current at the time that the analysis of mind is made. Livingstone mentions Descartes' use of the metaphor of hydraulic systems. Numerous other examples could be given as well. For instance Plato uses the metaphor of a carriage to describe a three part model of mind. An argument could also be made that Kant's model of mind—though not explicit—is the factory. That such metaphors are very powerful is demonstrated by Churchland's insistence that the mind really is a kind of computer. Livingston asserts, however, that "I think Western neuroscientists are inclined to believe that there is no model that is entirely appropriate, as yet, for the brain" (p. 30). Metaphors can, however, be very useful as heuristics for analysis. As such they can only be judged by how fruitful they are, and not as to whether they are true or false. Computation is just as much a metpahor for understanding the mind as is Descartes' hydraulics, though it may be a more fruitful one.

Over the course of the presentations and discussions a variety of different issues and topics came under consideration. One of these topics is different kinds of knowledge. It is interesting to observe in the course of the discussion how easily the scientists involved adopt the categories introduced by the Dalai Lama—direct perception, inference and testimony. These three are, of course, based on classic Indian epistemology. Not only were the categories accepted without discussion, but the goal of knowing exclusively by means of direct perception was accepted. This is in turn a reflection of the Gelugpa interpretation of Madhyamaka that awakening is achieved through the direct perception of emptiness—not simply an intellectual grasp of the concept of emptiness.

While the implication that Buddhism as an entirety holds that direct perception is the highest form of knowledge needs greater nuancing, there is another issue that is more relevant to the issue of the interaction between Buddhism and contemporary thought—arguably the concern of the work stated broadly. Just as cognitive science and Buddhism may mutually benefit from engaging in conversation, so also may Buddhism and contemporary epistemology.

The problem is exemplified when the Dalai Lama asserts that one can today directly perceive that the earth is round rather than flat by looking at pictures taken from outer space. This is reinforced by a version of the "ignorance of our forebears" argument—that centuries ago belief that the earth was flat was based solely on testimony (p. 118). This argument ignores the fact that it is we who have learned to ignore the direct perception of our senses in favor of a highly testimony-laden (i.e., theory-laden) acceptance of a photograph as revealing a "higher" truth. Antonio Damasio, one of the participants, although apparently in agreement with the idea that direct perception is the highest form of knowledge, actually points out the inescapable bonds between theory, observation and knowledge, when he says that in science "The process is always shifting, based on better observations, better technology, and better theory" (p. 117).

B. Alan Wallace picks up this thread in his concluding reflections, pointing out that both science and Buddhism necessarily rely on all three forms of knowledge (p. 170). He goes on to point out the circularity involved in determining authoritative testimony, "By what criteria does one judge who is and who is not an authority who can provide reliable testimony? In other words, whose direct observations are to be deemed trustworthy?" (p. 172). (For an extended discussion of this question in relation to the Buddha as an authoritative source, see Roger Jackson's *Is Enlightenment Possible?: Dharmakirti and Rgyal Tshab Rje on Knowledge, Rebirth, No-Self and Liberation*, Snow Lion Publications, 1993).

One of the issues that appears repeatedly, though perhaps not centrally, throughout the discussions is that of reincarnation, or metempsychosis. A case of twin sisters who remember peiople, places and objects from their immediate past life is discussed in terms of its implications for there being extremely subtle (by which is not meant higher or more sophisticated, but rather less obvious) aspects of mind which are not dependent upon the material structure of the brain. One may question, however, just how vital an element this is for Buddhism as a whole. It is certainly central to the institutionalized authority structures of Tibetan Buddhism in which deceased monastic leaders are replaced by themselves in another incarnation (the tulku system). Other cultural forms of Buddhism in which institutional continuity is not dependent upon such a system of reincarnations do not place such great emphasis on the concept. The centrality of karma per se to Buddhism generally does not entail the problematics of reincarnation.

Perhaps the most important point of agreement found in this entire discussion is the conventional nature of the self. Here, Buddhist insight and compassion complement cognitive science, providing a personal value and significance to the shared view: "the Madhyamikas add that while none of us exist as independent things, we do exist in interrelationship with

each other. Thus, we do not exist in alienation from other sentient beings and from our surrounding environment; rather we exist in profound interdependence, and this realization is said to yield a far deeper sense of love and compasssion than that which is conjoined with a reified sense of our individual separateness and autonomy" (p. 173).

One of the issues facing contemporary cognitive science is terminological. This is evident in the disagreement over how far to extend the term conscious, e.g., are fetuses conscious?, are animal conscious? This is a definitional rather than an objective question. While these specific questions may not have been raised in the history of Buddhist psychology, there is a well-established terminology in Sanskrit and Tibetan detailing a variety of mental states. The value of this Buddhist psychological terminology, however, will continue to be limited until a standardized set of translation equivalents can be established.

For the relation between Buddhist thought and cognitive science one of the most important issues is also one of the subtlest. It is not directly expressed, but rather is revealed in the nuanced way in which the conversation has been structured. It would be very easy—and entirely misleading—to simply assume that the questions of contemporary cognitive science can be directly addressed to Buddhist psychology and coherent answers received. Not only are the terms of the two discourses not univocal, but the underlying assumptions are also vastly different. This work is informed by an awareness of this issue and is the better for it.

If Buddhism is to continue to develop as a living tradition, it is necessary that interaction of this kind be continued. There is much that is of value in traditional Buddhist psychology, but an ongoing process of discerning and replacing outdated physiological concepts is needed. At the same time it is also essential that some common, but mistaken preconceptions about cognitive science held by contemporary Buddhists be overcome as well.

The Collected Works of Shinran. 2 vols. Kyoto: Jōdo Shinshū Hongwanji-ha, 1997. xii, 706 pages (volume 1); viii, 364 pages (volume 2). Hardcover: $ 50.00.[1]

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Although Shinran (1173–1262) is known to have advised his followers that his teaching is "the true teaching easy to practice for small, foolish beings; it is the straight way easy to traverse for the dull and ignorant (*The Collected Works of Shinran* [hereafter, *CWS*], vol. 1, p. 3)," his writings are