“Come Hither and be Measured”: On the Problematic Relation Between Cognitive Science and Spiritual Experience from a Jamesean Perspective
Eugene Taylor, Saybrook Graduate School

Cognitive Science is the rational ordering of sense data alone, while spiritual experience is usually taken as a total engagement of personality at all levels and the expansion of consciousness in all its various dimensions. William James even claimed that in the mystical experience we find the very source of the discursive intellect. He also said that it was impossible for psychology to claim that it could build an entire house with just a hammer and some nails in its tool box, if sense perception and logic were all that it used. So, with all the new interest in spirituality, is cognitive psychology just playing catch up to an alternative psychology more relevant to human experience in use outside the academy? Or is the present new focus on positive psychology, resilience, and spirituality the first unconscious step toward a solution of the Hard Problem in the neurosciences—that mysterious relation between the mind and the brain—and, inexorably, toward the ultimate transformation of psychology itself?

Intentionality in Mind, Brain, and World

Meaning and the Brain: Origins of Pleasure and Pain
Howard Fields, UCSF (Director Wheeler Center for the Neurobiology of Addiction)

Over the past 50 years our knowledge of brain function has expanded to the point where we now have a very good grasp of its basic building blocks (the neuron and synapse), its organizational principles (specific anatomical connections) and how these components contribute to observable behaviors. Furthermore, through functional imaging in awake humans, we have been able to access the neural correlates of subjective experience, reaching across the objectivity subjectivity divide. These extraordinary advances in neuroscience have begun to introduce a different way of thinking about the mind–body question. Now this seemingly simple (though inexplicable) duality becomes a subject with two parts; mind-brain and brain-body. Most neuroscientists accept that subjective experience can be generated by neural activity, and while there is no good theory for how this comes about, there are very robust and predictable rules that govern the types of activity that are associated with specific actions and subjective experiences. On the brain body side there is nothing like the mystery associated with mental phenomena. Brain cells are like other cells, needing oxygen and an energy source. However, unlike the liver or kidney, the function of many brain cells can only be understood through relating their activity to objects, actions and events outside the brain. In other words, nerve cells form networks that have intentionality and their operation is symbolic. These network functions are more ‘mind’ like than body like. One or two specific examples of how this works will be presented (pain, food consumption) and discussed in evolutionary perspective. While the neuroscientist may want to bring spirituality and religious practice within the logical and observational realm of neuroscience, in the end the brain defies purely reductionist explanations. At the same time, neuroscience has begun to attract the serious interest of students of religion. To the extent that students of religion are open to observation (including introspective) and to change, the time is ripe for serious dialog with neuroscientists. Religion is in part the search for meaning and the brain is about nothing if not meaning.

Formal Causality and Human Wholeness: Perspectives on the Mind-Brain Dichotomy
Michael Dodds, GTU (Department Chair of Philosophy, DSPT)

The relation between mind and matter has been a conundrum for Western philosophy from its beginning. Materialists have tried to reduce mind to matter, and idealists have attempted to absorb matter into mind. Dualists have affirmed both principles, letting them live together in a rather restless union. Today, the
riddle is posed as the mind-brain relationship and tends to be addressed in terms of reductionism or dualism. As empirical science has become more aware of instances of top-down causality, however, it has developed a new appreciation of the wholeness of individuals or systems. By retrieving the Aristotelian notion of formal causality, we can understand the metaphysical grounding of that wholeness and so offer an integrated account of its components, including (in human beings) the mind and the brain.

Intentionality and Neurodynamics: Two key concepts to understand better the relations between brain, body, world and mind
Eraldo Cacchione, GTU (JSTB)
Walter J Freeman, UCB (Professor Emeritus of Neurobiology)
The classic antinomy we address is not between mind and brain or body or world but between the Aquinian unity of the individual within itself and its unity within the world. The self is born in the lesser unity of isolation and strives by intention to realize the larger unity by acting into the world, thereby to acquire knowledge by assimilating to the perceived sensory changes from actions of the body. Brains dynamically extrapolate from present states to future states by constructing macroscopic activity patterns that express their foreknowledge. We call ‘intentionality’ (taking this category from Aquinas, not from Brentano) the predictive activity of the brains that “stretch forth” to the world in search for the sensory answers to their expectations, the organization of the self by the self, driving itself into the endless chaos it creates through the mutual excitation of its billions of neurons. The construction of knowledge of the self by the self through assimilation is operated through the fantastic transposition from the jumbled, irregular, meaningless activity of sensory-driven neurons, which are the unknowable fragments of samples from the world, to the initial stage of perception of classes formed by induction, abstraction, generalization and normalization in nonlinear neurodynamics. These classes are increments of knowledge by which, through action, an ever increasing degree of higher unity is achieved with comparable surrender of lesser unity. Thus mind evolves itself in the structure of behavior, from the dependency of infancy through the full powers of engagement in youth and middle age, culminating in the detached unity of the wisdom of old age. Elucidation of this evolution requires cooperative study of the action-perception cycle by the phenomenologist to comprehend the process: by the neuroscientist to understand the neural mechanisms: and by the philosopher-theologian to grasp the conceptual framework embedded in the writings of the ages, through which to communicate mutual understanding for all mankind.

Thurs, Jan 17

Methods in Religion and Cognitive Science

What is Cognitive Science? And What Does it Have to Do with Religion?
John F. Kihlstrom, UCB (Psychology)
Cognitive science is an interdisciplinary field that seeks to understand how knowledge is acquired, represented, and used by minds, brains, and machines. First I briefly trace both the origins of the field, as a reaction to the functional behaviorism advocated by B.F. Skinner. Then I summarize the contributions of its constituent disciplines, and some salient issues that crop up in each: philosophy, cognitive psychology, linguistics, computer science, cognitive neuroscience, and anthropology and other social sciences. Cognitive science should not be identified with either neuroscience or psychology; nor should "cognition" be identified with all things "mental". Cognitive science provides a set of concepts and methods by which theorists can approach certain questions about religion: What is the relation between knowledge and belief? What is the nature of religious belief, and of religious symbolisms? How is knowledge of God represented in the minds of believers? Is knowledge of God innate, or is it acquired through experience? What is the nature of religious experience? What is the relationship between the individual's knowledge of God, and the collective belief shared by members of a religious community? How do religious beliefs differ across cultures?
What’s in a Name?

Kelly Bulkeley, GTU

From the perspective of religious studies, the latest advances in cognitive science offer exciting new ways of approaching many of the field’s classic topics, including ritual, faith, conversion, myth, morality, vision, and healing. Several different methods have been developed to explore these possibilities, and at the recent annual meeting of the American Academy of Religion in San Diego two broad methods were on display, each found in the act of naming itself: 1) the formation of a new program unit to be called “Cognitive Science of Religion,” and 2) the renaming of the thirty-year old “Person, Culture, and Religion” group to the “Psychology, Culture, and Religion” group. The discussions surrounding the exact wording of these two groups’ self-identification (especially the of vs. and distinction) sheds new light on the methodological issues being discussed at this conference. For the past three years the GTU/UCB working group has been developing very much along the lines of the AAR’s Psychology, Culture, and Religion group, and in this presentation I will explain why I think that’s a good thing. The rapid pace of new discoveries in both cognitive science and the comparative study of religion requires a pragmatic flexibility and openness to evidence from multiple sources—qualities best promoted, I will argue, by methods that emphasize mutual interactions and self-reflexivity.

Coping and Coherence

Maintaining Well-Being in the Midst of Prolonged Stress Positive Emotion, Meaning, and Spirituality

Susan Folkman, UCSF (Director Osher Center for Integrative Medicine)

Social and behavioral scientists, as well as clinicians, philosophers, theologians, clergy, and even CEO’s, deans, and presidential nominees as well as the general public are understandably interested in both spirituality and coping because these concepts seem to hold keys to understanding how people manage to stay sane in today’s (and yesterday’s) worlds. The study of psychological stress and the coping process by psychologists had its beginnings in World War II, but was really launched with the publication of *Psychological Stress and the Coping Process* by Richard Lazarus in 1966. I am quite sure that spirituality was not mentioned. Existential beliefs are given brief mention in *Stress, Appraisal, and Coping* by Lazarus and Folkman, which appeared in 1984, and which continues to provide the framework for much of today’s stress research. Fortunately, research on spirituality is now flourishing through the work of a number of excellent investigators, and its roles in the stress process are becoming better defined and understood.

Of particular interest is how spirituality intersects with coping to support *positive emotions* in the stress process. Over the last ten years evidence has accumulated regarding the presence of positive emotions during periods of prolonged stress. The functions played by these positive emotions seem to be critical in understanding how people get through difficult times. The coping processes that support these positive emotions are largely meaning-based and distinct from those that are used to regulate distress. A major question for the field is the extent to which these meaning-focused coping strategies are also spiritual. This question is not just methodological; it concerns the press of *zeitgeist* on our formulations of theory, research, and practice.

Friday, Jan 18

From Trauma and Distortion to Forgiveness and Healing

Perception’s Illusion: The Origin of Suffering

Christine Skarda (former UCB neuroscientist and Buddhist nun)
Perception is a form of life that creates the subject/object structure in which perceivers experience themselves and the objects they perceive as separate, independent entities. Based on this model, philosophers, psychologists and perceptual scientists have tried to explain how a “copy” or “internal representation” (psychological or physiological) of the external world is created within the perceiver. Unfortunately, this model repeatedly encountered problems from the infinite regress problem of internal representations in philosophical and psychological theories of perception to the unresolved binding problem in contemporary neuroscience. Although it is undoubtedly true that we experience ourselves as substantially independent entities from the objects we perceive, no one has been able to explain how perception works in terms of such independence. Why? Is it that no one has been clever enough yet to find the processes responsible, or is it that the whole picture is a distortion? I would like to present a model that explains perceptual activity without the assumption of substantial independence and at the same time explains how the “illusion” of independence is generated. Then I would like to integrate this discussion into the wider philosophical context of the search for “the good life”, and in particular into the Buddhist view that the root of all suffering is the superimposition by sensory and mental consciousness of an independent mode of existence upon persons and their objects. I hope to develop a modern perspective on the question of why suffering is so difficult to eliminate.

Realized Forgiveness: Prelude to Sound Cognitive Research

Jim Emerson, GTU (emeritus, SFTS)

What allows one to have a perspective that allows for sound research? The experience of forgiveness of self as a reality in one’s life allows for creativity in research approaches and freedom from defensiveness. In such a context, one can learn from one’s data and reduce the danger of projecting into the data.

GTU Member Schools (and their abbreviations)
ABSW - American Baptist Seminary of the West
CTNS - Center for Theology and the Natural Sciences
CDSP - Church Divinity School of the Pacific (Episcopal)
DSPT - Dominican School of Philosophy & Theology
FST – Franciscan School of Theology
JSTB - Jesuit School of Theology at Berkeley
PLTS - Pacific Lutheran Theological Seminary
PSR - Pacific School of Religion
SFTS - San Francisco Theological Seminary (Presbyterian)