

BORROMEIO SEMINARY
SAINT MARY SEMINARY AND GRADUATE SCHOOL OF THEOLOGY

SYLLABUS (DRAFT)
THE TRANSFIGURED BRAIN:
THE RELATIONSHIP BETWEEN BRAIN SCIENCE, RITUAL AND MYSTICISM
DAYS AND TIME
FALL SEMESTER 2016

Course Instructors:

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Course Description:

This course will explore the intersection of neurology, psychology, philosophy, ritual practice, and the spiritual-mystical life to frame a dialogue between the contemporary research of neuroscientists, psychologists, and theology. This dialogue creates a forum to mediate the significance and role of religion within a cultural matrix that is permeated by an empirical, scientific, and technological mindset. Beginning with the science of the brain, this course will explore the dialectic relationship between contemporary developments in neuroscience and Christian theology, particularly in the areas of liturgy, ritual, meditation and mysticism. The lectures will explore current neuroscience research as it relates to the awareness of God, religious experience, and the progressive expansion of human consciousness, as well as the development of the interdisciplinary field of neurotheology. The course will include the examination of the philosophical and theological foundations and method for bringing the Christian understanding of the human person, liturgical ritual, spiritual growth, and mystical experience into conversation with empirical science.

A portion of the course will be dedicated to participative ritual and prayer practices in which students will be guided through spiritual experiences intended to heighten the awareness of their transcendent potential. These experiences will be followed by mystagogical reflection and discussion in light of the course's examination of the relationship between the brain, human consciousness, and the encounter with God.

Course Objectives:

At the conclusion of this course, students should be able to demonstrate that they have achieved the following course objectives:

1. Students will be able to describe contemporary advances in neuroscience that have led to its dialogue with theology, spirituality, and ritual practice resulting in the development of a multidisciplinary field of inquiry - neurotheology.
2. Students will be able to connect the philosophical examination of human consciousness, cognition, and meaning to the biological explorations of neuroscience and psychology through the examination of theories of knowledge found in Christian epistemology, anthropology, and ethics as these relate to the discoveries of brain science.
3. Students will be able to recognize and analyze (i.e., to discern) the phenomenological and physiological components of transcendent encounters (i.e., religious or spiritual experiences) based upon principles forged in the Christian liturgical and mystical traditions and, in turn, relate these to contemporary neuroscience and psychology.
4. Students will be able to identify and integrate the scientific, philosophical, and spiritual components of neurotheology that support an understanding of human transformation which integrates science and theology.
5. Students will experience ritual and spiritual practices as a part of the course and then, examine and appraise these in light of the fundamental insights proposed by neurotheological studies, liturgical theology, and the Christian mystical tradition, so as to be able to apply their learning outcomes to future transcendent encounters beyond this present study.

Texts:

1. Newberg, Andrew and Mark Robert Waldman. *How God Changes Your Brain: Breakthrough Findings from a Leading Neuroscientist*. New York: Ballantine Books, 2009.
2. Newberg, Andrew. *Principles of Neurotheology*. Burlington, VT: Ashgate Publishing Company, 2010.
3. Goleman, Daniel, ed. *Measuring the Immeasurable: The Scientific Case for Spirituality*. Boulder, CO: Sounds True, Inc., 2008.
4. Collins, Paul M. *Partaking in Divine Nature: Deification and Communion*. London: Bloomsbury T&T Clark, 2010.

Other materials that are not found within the required texts will be provided by the course instructors at the beginning of the semester.

Course Requirements:

1. READING

According to seminary guidelines, the instructor of a three credit hour course should not assign more than 1,200 pages of reading material as the norm. Taking into account the material's degree of difficulty, the instructor may adjust this figure accordingly. The present course will not exceed the seminary's guidelines for required reading. Students are expected to read the designated material as noted in the course schedule in advance of the class for which the reading has been assigned. Material not contained in the assigned textbooks, but required by the instructors, will be made available to the students in advance of the class for which they are assigned.

2. CLASS PARTICIPATION (20%): Students should exhibit Learning Outcomes 2, 3, 5.

- Includes presence, attentiveness, completion of assignments, adequate preparation for class, posing pertinent questions, joining in discussions, and offering reflections and insights so as to contribute to the quality of the class experience.
- In classroom discussion, kindly observe the following: "Being Catholic means being united with others, to help one another in the case of need, to learn by that which is good in others and to share generously one's own good, it means trying to become acquainted with one another and accepting each other's differences" (J. Ratzinger, "The Pastoral Implications of Episcopal Collegiality," *Concilium*, I, I).
- If you have a question on the lectures or reading material, kindly post it at: <http://eportfolio.stmarysem.edu/edwardkaczuk/dr-ed-kaczuk/> (Password: _____). This allows us to prepare for the question in a way that benefits the entire class.

SELF CHECK-LIST FOR CLASS PREPARATION/CONTRIBUTION

- _____ I had read the assignments carefully.
- _____ I posted a reflection on the class website when called for and responded to postings by my classmates (engaged in reflective dialogue).
- _____ I read and responded to other postings on the class website (engaged in reflective dialogue).
- _____ I took notes on the readings.
- _____ I encouraged others to contribute (asked for their opinion), and did not dominate the discussion.
- My contributions tended to:
 - _____ Raise challenging questions about the topic.
 - _____ Propose an idea or interpretation and back it with support.
 - _____ Provide additional support for someone's idea.
 - _____ Provide counter evidence for someone's idea.
 - _____ Help someone further explore an idea.
 - _____ Relate today's topic to previous course material and to material from other courses/experiences.
 - _____ Point out assumptions behind a claim or position.
 - _____ Dare to ask things I don't know, even if the question seems stupid.
 - _____ Show a curious, thoughtful mind at work.
- _____ I am personally engaging the content of the course in terms of understanding and developing my own personal spirituality.

3. FOUR WRITTEN ASSIGNMENTS (20%): Learning Outcomes 2, 3, 5

In four reflection papers (3-4 pages) students will be required to connect the philosophical examination of human consciousness, cognition, and meaning to the biological explorations of neuroscience and/or psychology through the examination of theories of knowledge found in Christian epistemology, anthropology, and ethics as these relate to the discoveries of brain science. They should demonstrate the ability to recognize and analyze (i.e., to discern) the phenomenological and physiological components of transcendent encounters (i.e., religious or spiritual experiences) based upon principles forged in the Christian liturgical and mystical traditions and, in turn, relate these to contemporary neuroscience and/or psychology. The course instructors will indicate the content and direction of each reflection paper based upon its connection to course reading, classroom discussion or ritual/prayer experiences. A written prompt will be provided by the

instructors to the students at least two weeks prior to the due date of each reflection paper.

4. MID-TERM EXAMINATION (20%): Learning Outcomes 1,4

Students will be required to describe contemporary advances in neuroscience that have led to its dialogue with theology, spirituality, and ritual practice resulting in the development of a multidisciplinary field of inquiry – neurotheology. Students will also be required to identify and integrate the scientific, philosophical, and spiritual components of neurotheology and contemporary research in psychology that support an understanding of human transformation which integrates science and theology.

5. FINAL PRESENTATION (40%): Learning Outcomes 1, 2, 3, 4, 5

Each student is to prepare an hour presentation that may be given to an outside group, such as retreat day/day of recollection, parish adult faith formation group, medical caregivers in various settings, etc. The presentation must be based on elements of science and theology from the course.

For classroom purposes, this final presentation is to be given to the class in the final two sessions in an abbreviated twenty-five minute time frame. Materials for the entire presentation to an outside group must be submitted to the course instructors. The focus and place for the outside presentation must be approved and developed in consultation with the professors by the mid-semester due date noted in the course calendar. Depending upon the size and abilities of the class, actual presentations to outside groups will be given in consultation and collaboration with the professors.

GRADING SCALE FOR THE FINAL PRESENTATION

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|---|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | 1. | The project completely ignores the assignment. |
| F | 2. | The project is incomprehensible due to a lack of organization and clarity of thought. |
| | 3. | The project contains very serious factual errors. |
| D | 4. | The project makes little or no attempt to support the presentation with scientific, theological, or faith concepts. |
| | 5. | The project supports the presentation with scientific, theological and faith concepts, but supporting analysis or material is missing, incorrect, or weak. |
| C | 6. | The project shows the connection between the scientific and theological concepts in the course but does not engage participants in a compelling way. |
| | 7. | The project is appropriately on topic, but the presenters do not show sensitivity to pastoral issues or respond well to questions raised by participants. |
| B | 8. | The project supports the presentation with scientific, theological or faith concepts, adequately provides supporting analysis and material, raises pertinent questions. |
| | 9. | The presenters show sensitivity to pastoral issues and respond adequately to questions and raised by participants. |
| A | 10. | The project is clear, insightful and imaginative. The preparation of the liturgical event is clearly grounded by scientific, theological, and faith concepts. Statements are supported by material from lectures, reading assignments, personal research and other source material. Pastoral issues are dealt with creatively. The presenters |

engage the class participants in a meaningful discussion which responds to questions posed and draws out insights from other participants.

6. FINAL INTERVIEW: Learning Outcomes 3, 4, 5

Each student will be required to make an appointment with the instructors at the end of the semester for a final integrative interview. Interviews will occur during the first week of December. During this interview, the instructors will review the student's ritual experiences in the course and the student will reflect on the scientific, theological, spiritual and pastoral implications of the course for themselves.

7. ACADEMIC STANDARDS

Students are expected to observe commonly accepted standards of academic integrity. Such standards include faithfully acknowledging sources used in one's written assignments, only taking credit for one's own work, and abiding by the directives established by the course instructors for examination procedures.

Grading:

GRADING CRITERIA:

- A: OUTSTANDING ACHIEVEMENT: exceptional aptitude, interest and performance
- A-, B+: GOOD ACHIEVEMENT: a significantly higher grasp of the course material which goes beyond the required basic elements
- B: SATISFACTORY ACHIEVEMENT: a grasp of the basis content that enables the instructor to certify the required mastery of the material of the course
- B-: SUBSTANDARD WORK
- C, D: POOR ACHIEVEMENT: a minimal grasp of course content and limited ability to apply principles learned
- F: Failure: inability to meet minimal requirements as specified by the instructor.

GRADE SCALE:

A	=	94 - 100	C+	=	78 - 80
A-	=	91 - 93	C	=	74 - 77
B+	=	88 - 90	C-	=	71 - 73
B	=	84 - 87	D	=	61 - 70
B-	=	81 - 83	F	=	60 or less

Course Calendar:

Please note: The course syllabus presents lecture topics and ritual celebrations that are associated with particular dates. The course instructors reserve the right to adjust the class lectures and ritual enactment dates according to need.

Week One: Foundations

Reading: Kaczuk, Edward, "We're Wired for Ritual," *GIA Quarterly* 15 (Winter 2004): 16-19.

Newberg, Andrew. *Principles of Neurotheology*. Burlington, VT: Ashgate Publishing Company, 2010, chapters 1, 2.

Review and Explanation of Syllabus: Objectives, Method, Schedule, and Assignments
Discussion on Students' Concerns, Questions, Etc.
The Connection between Neuroscience and Theology: We are wired for God

Week Two: Principles of Neurotheology

Reading: Newberg, Andrew. *Principles of Neurotheology*. Burlington, VT: Ashgate Publishing Company, 2010, chapters 3, 4, and 5.

Week Three: Principles of Neurotheology

Reading: Kaczuk, Edward, "A Brain, A Heart, The Nerve-Part 2," *GIA Quarterly*, 20 (Spring 2009):
Newberg, Andrew and Mark Robert Waldman. *How God Changes Your Brain: Breakthrough Findings from a Leading Neuroscientist*. New York: Ballantine Books, 2009.
Newberg, Andrew. *Principles of Neurotheology*. Burlington, VT: Ashgate Publishing Company, 2010, chapters 6-9.

Week Four: The Brain and Spiritual Practices – Neurological Basis (Dr. Andrew Newburg, MD)

Reading: d'Aquili, Eugene, and Andrew B. Newberg. *The Mystical Mind: Probing the Biology of Religious Experience*. Minneapolis: Fortress Press, 1999. (pages to be determined)
Hill, Peter C. and Kenneth I. Pargament. "Advances in the Conceptualization and Measurement of Religion and Spirituality: Implications for Physical and Mental Health Research." *Psychology of Religion and Spirituality* 5 (January 2008): 3-17.

This class reviews current data on the effects of various spiritual practices (i.e. meditation and prayer) on the brain and body. The class will focus on brain imaging studies (methods, limitations, results) of specific practices as we work towards building a model of how such practices affect the brain. We will consider specific brain regions including the frontal lobes, parietal lobes, limbic system, and default mode network in relation to spiritual practices. We will also evaluate the changes that occur in the body in terms of immune function, stress hormones, and the autonomic nervous system. And we will consider the potential health effects of these practices including improvements in immune function, reductions in depression and stress, and improved longevity. Overall, this class will provide an extensive review of the various ways in which spiritual practices impact the brain and body.

Reflection Paper #1 due.

Week Five: The Brain and Spiritual Practices – Theological Foundations

Reading: Alston, William P. *Perceiving God: The Epistemology of Religious Experience*. Ithaca, NY: Cornell University Press, 1991. (pages to be determined)
Collins, Paul M. *Partaking of the Divine Nature: Deification and Communion*. London: Bloomsbury T&T Clark, 2010. (pages to be determined)

Week Six: Ritual Experience – Labyrinth Walk

Students will participate in a ritual practice, a labyrinth walk, oriented toward bringing the primary concepts of the course to some lived experience. The walk will be preceded by catechesis on the labyrinth and its place in the Christian spiritual tradition. After all of the course participants have completed the walk, the class will engage in some mystagogical reflection on the experience. Students are also required to reflect in writing about their personal experience of this ritual exercise on the class.

Week Seven: Probing the Biology of Religious Experience

Reading: d'Aquili, Eugene, and Andrew B. Newberg. *The Mystical Mind: Probing the Biology of Religious Experience*. Minneapolis: Fortress Press, 1999. (pages to be determined)
Beauregard, Mario. *Brain Wars: The Scientific Battle Over the Existence of the Mind and the Proof That Will Change the Way We Live Our Lives*. New York: HarperCollins Publishers, 2012. (pages to be determined)

Reflection Paper #2 due.

Week Eight: The Brain and Mystical Experiences (Dr. Andrew Newberg, MD)

Reading Goleman, Daniel, ed. *Measuring the Immeasurable: The Scientific Case for Spirituality*. Boulder, CO: Sounds True, Inc., 2008. (pages to be determined)
Newberg, Andrew and Mark Robert Waldman. *How God Changes Your Brain: Breakthrough Findings from a Leading Neuroscientist*. New York: Ballantine Books, 2009. (pages to be determined)

This class will review the current information regarding the relationship between mystical experiences and the brain. We will begin with a neuropsychological evaluation of mystical experiences including their various elements such as their emotional intensity, ineffability, sense of unity, etc. We will then consider how specific brain regions may be related to these elements. Thus, the limbic system might be related to the emotional intensity and the parietal lobe function might be related to the sense of unity. We will also consider the relationship between various neurotransmitter systems in the context of mystical experiences. Data will be drawn from the experiences associated with spiritual practices, but also drug induced states and near death

experiences. We will also consider the important theological and epistemological questions that arise from such an analysis of mystical experiences. Overall, this class will provide an extensive review of the various ways in which experiences are related to the functions of the brain.

Draft proposals for the students' final presentation due.

Week Ten: Psychology and Theology in Relation to Religious Experience

Reading: Helminiak, Daniel A. "The Role of Spirituality in Formulating a Theory of the Psychology of Religion." *Zygon* 41(March 2006): 197-224.

Meissner, M.M. and Chris R. Schlauch, eds. *Psyche and Spirit: Dialectics of Transformation*. Lanham, MD: University Press of America, 2003. (pages to be determined)

Bulkeley, Kelly, ed. *Soul, Psyche, Brain: New Directions in the Study of Religion and Brain-Mind Science*. New York: Palgrave Macmillan, 2005. (pages to be determined)

Reflection Paper #3 due.

Week Eleven: Neurotheology, Philosophy, and Mysticism

Reading: Sherman, Jacob Holsinger. *Partakers of the Divine: Contemplation and the Practice of Philosophy*. Minneapolis: Fortress Press, 2014. (pages to be determined)

Roy, Louis. *Transcendent Experiences: Phenomenology and Critique*. Toronto: University of Toronto Press, 2001. (pages to be determined)

Gellman, Jerome. *Mystical Experience of God: A Philosophical Inquiry*. Burlington, VT: Ashgate Publishing Company, 2001. (pages to be determined)

Week Twelve: Neurotheology and Mysticism

Reading: Paper, Jordan. *The Mystic Experience: A Descriptive and Comparative Analysis*. Albany: State University of New York Press, 2004. (pages to be determined)

Collins, Paul M. *Partaking in Divine Nature: Deification and Communion*. London: Bloomsbury T&T Clark, 2010. (pages to be determined)

Reflection Paper #4 due.

Week Thirteen: Neurotheology and Mysticism

Reading: Paper, Jordan. *The Mystic Experience: A Descriptive and Comparative Analysis*. Albany: State University of New York Press, 2004. (pages to be determined)

Forman, Robert K.C. *Mysticism, Mind, Consciousness*. Albany: State University of New York Press, 1999. (pages to be determined)

Week Fourteen: Class Presentations

Final interviews with the course instructors scheduled for this week.

Final Exam Period: Class Presentations

POTENTIAL BIBLIOGRAPHICAL RESOURCES
SCIENCE AND THEOLOGY ACADEMIC GRANT

- Alexander, Eben. *Proof of Heaven: A Neurosurgeon's Journey into the Afterlife*. New York: Simon and Schuster Paperbacks, 2012.
- Alston, William P. *Perceiving God: The Epistemology of Religious Experience*. Ithaca, NY: Cornell University Press, 1991.
- Azari, Nina P. and Dieter Birnbacher. "The Role of Cognition and Feeling in Religious Experience." *Zygon* 39(December 2004): 901-917.
- Baumeister, R. F., and Julie J. Exline. "Mystical Self Loss: A Challenge for Psychological Theory." *International Journal for the Psychology of Religion* 12 (2002): 15-20.
- Bear, Mark F., Barry W. Connors, and Michael A. Paradiso. *Neuroscience: Exploring the Brain*. 4th ed. Philadelphia: Wolters Kluwer, 2016.
- Beauregard, Mario. *Brain Wars: The Scientific Battle Over the Existence of the Mind and the Proof That Will Change the Way We Live Our Lives*. New York: HarperCollins Publishers, 2012.
- Beauregard, Mario and Denyse O'Leary. *The Spiritual Brain: A Neuroscientist's Case for the Existence of the Soul*. New York: HarperCollins Publishers, 2007.
- Borys, Peter N. *Transforming Heart and Mind: Learning from the Mystics*. New York: Paulist Press, 2006.
- Bulkeley, Kelly, ed. *Soul, Psyche, Brain: New Directions in the Study of Religion and Brain-Mind Science*. New York: Palgrave Macmillan, 2005.
- Cartwright, Kelly B. "Cognitive Development Theory and Spiritual Development." *Journal of Adult Development* 8 (2001): 213-220.
- Collins, Paul M. *Partaking of the Divine Nature: Deification and Communion*. London: Bloomsbury T&T Clark, 2010.
- Connor, Kimberly Rae. "Called to the Things of This World: The Difficult Balance of Nuns in *Mariette in Ecstasy* and *Lying Awake*." *Listening* 40 (Spring 2005): 101-112.
- Culligan, Kevin, Lawrence S. Cunningham, and Keith J. Egan. "Upon Reading *Lying Awake*." *Spiritual Life* 47 (Summer 2001): 100-111.
- d'Aquili, Eugene, and Andrew B. Newberg. *The Mystical Mind: Probing the Biology of Religious Experience*. Minneapolis: Fortress Press, 1999.

- Dalferth, Ingolf U. *Becoming Present: An Inquiry into the Christian Sense of the Presence of God*. Leuven: Peeters, 2006.
- Damasio, Antonio R. "A Note on the Neurobiology of Emotions." In *Altruism and Altruistic Love: Science, Philosophy, and Religion in Dialogue*, edited by Stephen G. Post, Lynn G. Underwood, Jeffrey P. Schloss, and William B. Hurlbut, 264-271. Oxford: Oxford University Press, 2002.
- Davis, Carolyn Franks. *The Evidential Force of Religious Experience*. Oxford: Oxford University Press, 1989.
- Dunn, Bruce R., Judith A. Hartigan, and William L. Mikulas. "Concentration and Mindfulness Meditations: Unique Forms of Consciousness?" *Applied Psychophysiology and Biofeedback* 24 (1999): 147-165.
- Exline, Julie J., Kenneth I. Pargament, Joshua B. Grubbs, and A.M. Yali. "The Religious and Spiritual Struggles Scale: Development and Initial Validation." *Psychology of Religion and Spirituality* 6 (2014): 208-222.
- Ferrer, Jorge N. and Jacob H. Sherman, eds. *The Participatory Turn: Spirituality, Mysticism, Religious Studies*. Albany: State University of New York Press, 2008.
- Finlan, Stephen and Vladimir Kharlamov, eds. *Theosis: Deification in Christian Theology*. Eugene, OR: Pickwick Publications, 2006.
- Forman, Robert K.C. *Mysticism, Mind, Consciousness*. Albany: State University of New York Press, 1999.
- Froehlich, James P., Geraldine M. Fialkowski, N.J. Scheers, Peter C. Wilcox, and Richard T. Lawrance. "Spiritual Maturity and Social Support in a National Study of a Male Religious Order." *Pastoral Psychology* 54 (May 2006): 465-478.
- Gassin, Elizabeth A. and J. Stephen Muse. "Beloved to God: An Eastern Orthodox Anthropology." In *The Psychologies in Religion: Working with the Religious Client*, edited by E. Thomas Dowd and Stevan Lars Nielsen, 51-68. New York: Springer Publishing Company, 2006.
- Gellman, Jerome. *Mystical Experience of God: A Philosophical Inquiry*. Burlington, VT: Ashgate Publishing Company, 2001.
- Germer, Christopher K. "Mindfulness: What Is It? What Does It Matter?" In *Mindfulness and Psychotherapy*, edited by Christopher K. Germer, Ronald D. Siegel, and Paul R. Fulton, 3-27. New York: The Guilford Press, 2005.
- Gillespie, Kevin. "Catholicism and Psychology." In *The Psychologies in Religion: Working with the Religious Client*, edited by E. Thomas Dowd and Stevan Lars Nielsen, 31-49. New York: Springer Publishing Company, 2006.

- Goleman, Daniel, ed. *Measuring the Immeasurable: The Scientific Case for Spirituality*. Boulder, CO: Sounds True, Inc., 2008.
- Granfield, David. *Heightened Consciousness: The Mystical Difference*. New York: Paulist Press, 1991.
- Han, Shihui, Lihua Mao, Xiaosi Gu, Ying Zhu, Jianqiao Ge, and Yina Ma. "Neural Consequences of Religious Belief on Self-Referential Processing." *Social Neuroscience* 3 (2008): 1-15.
- Helminiak, Daniel A. "The Role of Spirituality in Formulating a Theory of the Psychology of Religion." *Zygon* 41(March 2006): 197-224.
- Hill, Peter C. and Kenneth I. Pargament. "Advances in the Conceptualization and Measurement of Religion and Spirituality: Implications for Physical and Mental Health Research." *Psychology of Religion and Spirituality* 5(January 2008): 3-17.
- Hyde, Brendan. "The Plausibility of Spiritual Intelligence: Spiritual Experience, Problem Solving, and Neural Sites." *International Journal of Children's Spirituality* 9 (April 2004): 39-52.
- Lazar, Sara W. "Mindfulness Research." In *Mindfulness and Psychotherapy*, edited by Christopher K. Germer, Ronald D. Siegel, and Paul R. Fulton, 220-238. New York: The Guilford Press, 2005.
- Marques, Andrea H. and Esther M. Sternberg. "The Biology of Positive Emotions and Health." In *Altruism and Health: Perspectives from Empirical Research*, edited by Stephen G. Post, 149-188. Oxford: Oxford University Press, 2007.
- May, Gerald G. *Will and Spirit: A Contemplative Psychology*. San Francisco: HarperCollins Publishers, 1982.
- Mayer, John D. "Spiritual Intelligence or Spiritual Consciousness?" *The International Journal for the Psychology of Religion* 10 (2000): 47-56.
- McGilchrist, Iain. *The Master and His Emissary: The Divided Brain and the Making of the Western World*. New Haven: Yale University Press, 2009.
- Meissner, M.M. and Chris R. Schlauch, eds. *Psyche and Spirit: Dialectics of Transformation*. Lanham, MD: University Press of America, 2003.
- Murphy, Nancey. *Bodies or Souls, or Spirited Bodies?* Cambridge: Cambridge University Press, 2006.
- Nelstrop, Louise, Kevin Magill, and Bradley B. Onishi. *Christian Mysticism: An Introduction to Contemporary Theoretical Approaches*. Burlington, VT: Ashgate Publishing Company, 2008.
- Newberg, Andrew. *Principles of Neurotheology*. Ashgate Science and Religion Series. Burlington, VT: Ashgate Publishing Company, 2010.
- Newberg, Andrew, Eugene d'Aquili, and Vince Rause. *Why God Won't Go Away: Brain Science and the Biology of Belief*. New York: Ballantine Books, 2002.

- Newberg, Andrew and Mark Robert Waldman. *Born to Believe: God, Science, and the Origin of Ordinary and Extraordinary Beliefs*. New York: Atria Books, 2007.
- _____. *How God Changes Your Brain: Breakthrough Findings from a Leading Neuroscientist*. New York: Ballantine Books, 2009.
- Paper, Jordan. *The Mystic Experience: A Descriptive and Comparative Analysis*. Albany: State University of New York Press, 2004.
- Pargament, Kenneth I. *Spiritually Integrated Psychotherapy: Understanding and Addressing the Sacred*. New York: The Guilford Press, 2007.
- Pargament, Kenneth I. and Julie J. Exline. (in press pending final approval by editor). "Advances in the Psychology of Religion and Spirituality." Chapter to appear in J. Levin (Ed.), *Religion and the Social Sciences*. Philadelphia: John Templeton Press.
- Pargament, Kenneth I., A. Mahoney, Julie J. Exline, J.W., Jones, and E.P. Shafranske. "Envisioning an Integrative Paradigm for the Psychology of Religion and Spirituality." In *Context, Theory, and Research*. Vol. 1 of *APA Handbook of Psychology, Religion, and Spirituality*, edited by Kenneth I. Pargament, 3-19. Washington, DC: American Psychological Association, 2013
- Pargament, Kenneth I., A. Mahoney, E.P. Shafranske, Julie J. Exline, and J.W. Jones. "From Research to Practice: Towards an Applied Psychology of Religion and Spirituality. In *An Applied Psychology of Religion and Spirituality*. Vol. 2 of *APA Handbook of Psychology, Religion, and Spirituality*, edited by Kenneth I. Pargament, 3-22. Washington, DC: American Psychological Association, 2013.
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- Wendorf, Thomas A. "Body, soul, and Beyond: Mystical Experience in Ron Hansen's *Mariette in Ecstasy* and Mark Salzman's *Lying Awake*." *Logos* 7 (Fall 2004): 37-64.
- Wilson, Ken. *Mystically Wired: Exploring New Realms in Prayer*. Nashville: Thomas Nelson, 2009.
- Wiseman, James A. *Spirituality and Mysticism: A Global View*. Maryknoll, NY: Orbis Books, 2006.
- Wood, Ralph W. "The Construction and Preliminary Validation of a Measure of Reported Mystical Experience." *Journal for the Scientific Study of Religion* 14 (1975): 29-41.
- Zeiders, Charles L. and Ronald Pekala. "Review of the Evidence Regarding the Behavioral Medical and Psychological Efficacy of Christian Prayer." In *The Clinical Christ: Scientific and Spiritual Reflections on the Transformative Psychology Called Christian Holism*, edited by Charles L. Zeiders, 117-134. Birdsboro, PA: Julian's House, 2004.