

Neuroscience and the Soul

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Adam Green, Azusa Pacific University

E-mail: greenab3@gmail.com



A. Course Objectives

That the student:

- Understand at an informed non-specialist level how the brain works in general and the nature of the systems within the brain that are of special interest to concerns connected to the traditional Christian notion of the soul.
- Think critically and constructively about the nature of the soul and how neuroscience may be used as a resource in the project of faith seeking understanding.
- Gain a measure of expertise in navigating the interface of neuroscience and human agency on the one hand and that between neuroscience and the knowledge of persons on the other.

B. Course Texts

The student is required to use a free app called BrainTutor available for Windows and Mac. Go to brainvoyager.com to download (or apple app store). See also headneckspine.com. A binder with readings for the class will be made available on the first day of class.

C. Course Requirements

Out of 100%

- 20% Reading quizzes
- 20% Group presentation using Neurotime
- 20% Term paper
- 20% Take-home midterm exam
- 20% Final exam

D. Prospective Course Schedule

Week 1: Conceptions of the Soul, part I

Selections from the works of Augustine (De Anima Quantitate and De Libero Arbitrio)

Selections from Aquinas' Summa Theologica (starting with Prima pars, question 75)

Week 2: Conceptions of the Soul, part II

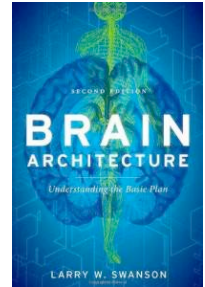
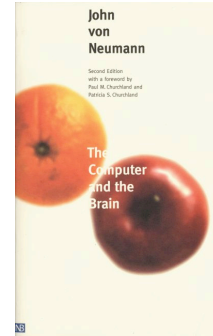
Murphy, "Human Nature: Historical, Scientific, and Religious Issues"

Excerpt from Cooper, *Body, Soul, and Life Everlasting*

Week 3: Brain Basics—the Computer Analogy

Excerpt from Von Neumann, *The Computer and the Brain*

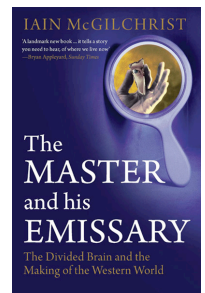
Chp 4 of McCorduck, *Machines Who Think*



Week 4: Brain Basics—Modularity and Centralization

Excerpt from Swanson, *Brain Architecture*

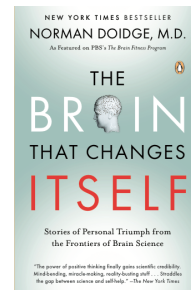
Fodor, "Precis of *The Modularity of the Mind*"



Week 5: Refining the Basics—The Split Brain

Excerpt from McGilchrist, *The Master and His Emissary*

Sperry, "Consciousness, Personal Identity, and the Divided Brain"



Week 6: Refining the Basics—The Frontal Lobe

Excerpt from Goldberg, *The Executive Brain*

Week 7: Refining the Basics—Neuroplasticity

Excerpt from Doidge, *The Brain that Changes Itself*

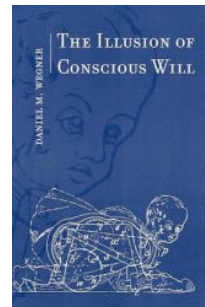
Week 8: Agency—The Scope of Automaticity

Wegner, "Precis of *The Illusion of Conscious Will*"

Bargh, "The Unbearable Automaticity of Being"

Fiedler, "Exerting Control Over Allegedly Automatic Associative Processes"
from *Psychology of Self Regulation* (2009)

Baumeister, "Self-Regulatory Strength"



Week 9: Agency—Consciousness and the Genesis of Action

Libet, "Do We Have Free Will?" *The Volitional Brain*

Mele, "Decisions, Intentions, Urges, and Free Will: Why Libet Has Not Shown What He Says He Has."

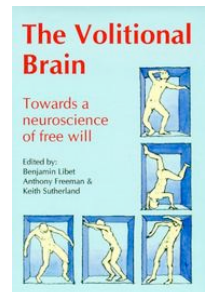
Week 10: Agency—Neuroethics, Moral Judgment, and Moral Motivation

Excerpt from Baron-Cohen, *The Science of Evil*

Greene, "The Secret Joke of Kant's Soul"

Huebner, Dwyer, & Hauser, "The Role of Emotion in Moral Psychology"

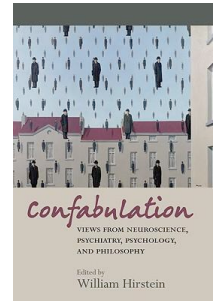
Prinz, "The Emotional Basis of Moral Judgments"



Week 11: Agency—Cognitive Dissonance and Weakness of Will

Thagard, “The Moral Psychology of Conflicts of Interest: Insights from Affective Neuroscience”

Kalis et al, “Weakness of Will, Akrasia, and the Neuropsychiatry of Decision Making”

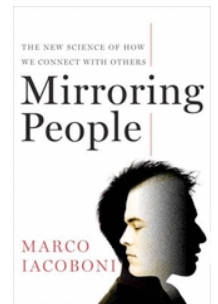


Week 12: Detecting Soul—Confabulation and Self-Knowledge

French et al, “False Memories: A Kind of Confabulation in Non-Clinical Subjects”

Mele, “Delusional Confabulation and Self-Deception”

Coltheart & Turner, “Confabulation and Delusion”



Week 13: Detecting Soul—Mirror Neurons, Mindreading, and Others

Goldman & Gallese, “Mirror Neurons and the Simulation Theory of Mindreading”

Green, “Perceiving Persons”

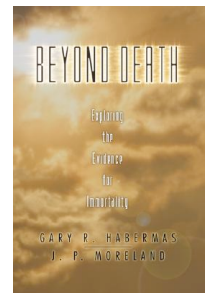
Excerpt from Iacoboni, *Mirroring People*

Week 14: Detecting Soul—Near Death and Out of Body Experiences

Excerpt from Habermas & Moreland, *Beyond Death*

Nelson, “Does the Arousal System Contribute to Near Death Experience?”

Nelson, “Out-of Body Experience and Arousal”



Week 15: Detecting Soul—Spirits, Altered States, and the Temporal Lobe

Excerpt from Persinger, *The Neuropsychological Bases of God Beliefs*

Excerpt from Cohen, *The Mind Possessed*

Short Excerpt from Atran, *In Gods We Trust*

E. Assignments

a. Group presentation

Groups will make short presentations on one of the topics in the parts of the course on “Agency” and “Detecting Souls”. Groups must meet with me and explain their presentations outside of class at least two weeks prior to the date the presentation is scheduled.

Groups must explain some of the relevant neuroscience using BrainTutor and make an argument as to how the science is or is not relevant to the broader topic being addressed.

b. Term paper

Term papers provide the student with practice contributing to interdisciplinary discussions. A handout on writing term papers will be given out in class. Your topic must be approved beforehand.

c. Midterm exam and Final exam

The midterm will be an open book, open software take-home exam. The intent of the midterm is to solidify your understanding of the basic structure and function of the brain and your understanding of what the concept of the soul entails. The final exam will be a traditional closed book exam.