

NSC 301
Spring, 2009

States of Consciousness

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Office Hours: T, 1:00-3:00pm, and by appointment

Class time & location: Moyer 106, TR, 3:00-4:15pm

Course Description

This course critically examines the recent attempts by neuroscience to resolve the neural correlates of various states of consciousness. Our class conversations will broadly center on the philosophical and physiological traditions that guide this work. We will closely study the putative neural underpinnings of several states of consciousness, including sleep/dreaming, pain, meditation, ecstasy, and coma; in parallel, we will discuss how the resolution of neural function shapes and is shaped by social structures and cultural meanings. Alternate years. *Prerequisite: NSC 101 Mind and Brain.*

Major Course Questions

As in any upper-division seminar, the major goal will be to model and develop effective writing, speaking, and critical reasoning skills in line with the expectations of scholarly research. I believe that a deep focus on 'states of consciousness' in neural terms will allow us to critically examine the role and process of science in several overlapping yet distinct fields: neuroscience, physiology, philosophy, and cultural studies. At the core of all "materialist" work in consciousness is the desire to make the ineffable mind objective, physical, and measurable. Although the methods can be complex, the research questions are very basic:

1. What are the minimal neuronal mechanisms jointly sufficient for any conscious percept¹?
2. What research methods will be most useful in identifying these "minimal neuronal mechanisms"?
3. How are subjective, phenomenal states caused by neuronal events?
4. Do other animals possess states of consciousness? Are these states congruent with human states?
5. What do we mean by "consciousness"? How can we document consciousness? Why does it exist?
6. What do our attempts to parse out 'states of consciousness' tell us about selfhood? The quotidian?
7. How is the work of finding neural correlates of consciousness shaped by language, the social moment, cultural meanings, religious meanings, politics?

Academic Behavior Code

All assignments are to be completed in line with the Academic Behavior Code of Muhlenberg College. *I have zero tolerance for academic dishonesty.* By submitting work in this class, you are pledging that your work is not plagiarized and is representative of only your ideas. Please be sure to read the Code carefully (the complete version is in your Student Handbook).

¹ Crick & Koch, 1990

Assignment Summary

Individual assignments with more specific direction will be handed out in advance of deadlines.

Homework

4 @ 50 points each

Homework assignments will afford you the opportunity to work on stuff we're discussing in class while living your life outside of class. These activities will build upon course lectures and discussions to promote and sustain independent thought and critical analysis – and move you to the next level of complexity in your thinking about this work. These exercises may require you to do directed research online, design an experiment, undergo an experience, and/or develop your own critical responses to data and argument; as such, homework sets will be somewhat like small papers, requiring strong analytical writing skills. Some homework assignments will require that you work with a partner; choose wisely. Please see the course calendar for relevant dates.

Two 'partner examinations'

50 points each

'Partner examinations' are just that: exams to be completed in teams of two. Each member of the partnership will have unique questions to answer. Partners then proofread each other's work, offer suggestions, and are invited to formally comment on their partner's answers. Of the 50 points possible on these exams, 40 points are allocated for your work and 10 points are allocated for your responses to your partner's work. The major pedagogical goal underlying these exams is an attempt to formalize discursive space even on an exam – and to get you to think critically about the ideas of your class colleagues (and not just your own!). Partnerships are assigned randomly on the day of the exam. Please see the course calendar for relevant dates.

Tutorial

50 points

Your interests within 'consciousness studies' will be a major driving force of this class – I want to leave flexibility within the syllabus to accommodate these interests and allow them to deepen. To that end, you will have the opportunity in the second-half of the semester, alongside a class colleague, to formally present on a topic within the subfields of 'consciousness studies'. These tutorials will be an opportunity to read deeply into the community of scholars – and also share with us your own developing critical perspective. You will be assessed *individually* on the merits of your tutorial. Please see the course calendar for relevant dates.

Final paper

100 points

As a final assignment, you will expand one of your homework assignments into a larger, more developed critical analysis; this 'expansion' will also allow you to re-examine and revise your earlier work and thus may also involve independent reading, research, and thought. You will need to first write a short, formal proposal for the topic on which you will write – as well as meet individually with me, outside of class, to discuss your proposal. Because you will be expanding the work you will have done on a homework assignment, the possibilities of final paper topics will be necessarily fluid and diverse. In addition to the formal manuscript you will write, the results of your analysis will be presented 'conference-style' to your class colleagues on Performance Day (Friday, May 1, 2009).

Class participation

50 points

This course depends on regular, engaged participation; together we are building a scholarly community. Please come to class ready to critically approach the work. Your facility in discussing assigned readings and your commitment to class material will be used to assign participation grades; therefore, a missed class can significantly affect your final grade.

TOTAL

500 points

Evaluation

Grades will be assigned based on the sum of the total points you obtain by the end of the semester. Your score will be divided by **500 points** and will be translated into a letter grade as follows: A+ = 100-97%, A = 96-93%, A- = 92-90%, B+ = 89-87%, B = 86-83%, B- = 82-80%, C+ = 79-77%, C = 76-73%, C- = 72-70%, D = 69-60%, F = 59% and below.

Course Texts

- Metzinger, Thomas (editor; 2000) *Neural Correlates of Consciousness: Empirical and Conceptual Questions*, 1st edition. MIT Press. ISBN # 0-26213-370-9
- Scarry, Elaine (1987) *The Body in Pain*, 1st edition. Oxford University Press. ISBN # 0-19504-996-9
- Woolf, Virginia, Francine Prose, and Mark Hussey (2004) *The Mrs. Dalloway Reader*. Harvest Books. ISBN # 0-15603-015-2
- Additional reading (available electronically on **BlackBoard**)

These texts are on sale in the College Bookstore (look in the Neuroscience section) and also readily available from online distributors (including Amazon, Powells, Alibris).

Miscellany

- All assignments are due on the date indicated. I **do not** grant extensions on papers or exams except in case of a medical emergency (documentation required). I will accept late assignments but please bear in mind that they will be penalized for each day that they are past due.
- Please turn in written work with a single staple in the upper left hand corner. Make sure that your paper is typed, bears your name and the date, is paginated, uses 10, 11, or 12 point font, and has been proofread for grammar and spelling errors.
- Please let me know if you have a documented learning disability that will require special accommodation. I will be glad to assist you.
- As in any public gathering, please silence all communication gadgetry **before** coming to class.
- Because this is an advanced class, I expect a fair amount of initiative, curiosity, and independence to be a part of your work. You are no longer passive recipients of knowledge (if you ever were) – please take responsibility for your learning and own it as an advanced student. To that end, sauciness and creativity are encouraged so long as they undergird a seriousness of critical intent. Whining and dependency are frowned upon.

Course Calendar

Readings marked with an (Ω) are available electronically on **BlackBoard**.

Tuesday, January 13
 Introductions & definitions

A. The modernist origins of 'consciousness'

Thursday, January 15
 Substantive and transitive states of consciousness
 • Ω James, "The Stream of Consciousness"

Tuesday, January 20
 Experiments in writing 'consciousness'
 • Woolf, *Mrs. Dalloway*

Thursday, January 22
 Experiments in writing 'consciousness'
 • Woolf, *Mrs. Dalloway*

Tuesday, January 27
 Experiments in writing 'consciousness'
 • Woolf, *Mrs. Dalloway*

Thursday, January 29
Homework #1 due
 Critical perspectives on consciousness and *Mrs. Dalloway*
 • Ω Reading TBA

B. Foundations of a neural approach to 'consciousness'

Tuesday, February 3
 Neural correlates of consciousness I
 • Chalmers, "What is a neural correlate of consciousness?" (in Metzinger, 2000)

Thursday, February 5
 Neural correlates of consciousness II
 • Singer, "Phenomenal awareness and consciousness from a neurobiological perspective" (in Metzinger, 2000)

Tuesday, February 10
 Is there a 'self' in selfhood? I
 • Metzinger, "The subjectivity of subjective experience" (in Metzinger, 2000)

Thursday, February 12
Homework #2 due
 Is there a 'self' in selfhood? II
 • Metzinger, "The subjectivity of subjective experience" (in Metzinger, 2000)

Tuesday, February 17

Partner Examination One

C. Sleep and dreaming

Thursday, February 19

The NCCs of sleep and dreaming I

- Ω Freud, excerpts from *The Interpretation of Dreams*

Tuesday, February 24

The NCCs of sleep and dreaming II

- Ω Hobson and McCarley, “The brain as a dream state generator”
- Ω Reiser, “The dream in contemporary psychiatry”

Thursday, February 26

The NCCs of sleep and dreaming III

- Ω Hobson and McCarley, “The brain as a dream state generator”
- Ω Reiser, “The dream in contemporary psychiatry”

Tuesday, March 3 and Thursday, March 5 :: NO CLASS – Spring Recess

Tuesday, March 10

The NCCs of sleep and dreaming IV

- Flohr, “NMDA receptor-mediated computational processes and phenomenal consciousness” (in Metzinger, 2000)

D. Pain

Thursday, March 12

Homework #3 due

Phenomenal definitions of pain I

- Scarry, *The Body in Pain*

Tuesday, March 17

Phenomenal definitions of pain II

- Scarry, *The Body in Pain*

Thursday, March 19

Homework #3 due

Phenomenal definitions of pain III

- Scarry, *The Body in Pain*

Tuesday, March 24

The NCCs of pain I

- Ω Hardcastle, “Mind over matter”

Thursday, March 26

The NCCs of pain II

- Ω Hardcastle, “What we don’t know about brains”

Tuesday, March 31

Brainstorming final paper topics

Thursday, April 2

Partner examination two

Sunday, April 5

View *Inland Empire* 6:00 – 10:00pm, Ettinger 202

Tuesday, April 7

Discussion of *Inland Empire*

Thursday, April 9

Tutorial I: Fear and Familiarity (Eadline and Forte)

Tutorial II: Near Death Experiences (Shapiro and Zemel)

Tuesday, April 14

Tutorial III: Dissociation and Identity (Herold and Kumral)

Tutorial IV: Groupthink (Illing and Kadakia)

Thursday, April 16

Homework #4 is due (by Friday, April 17)

Tutorial V: Chaos Theory and Cognition (Drake and Hooker-Haring)

Tutorial VI: Masochism and Pleasure (Grom, Naab, and Strumph)

Tuesday, April 21

Tutorial VII: Speaking in Multiple Languages (Markham and Nelson)

Tutorial VIII: Pain and Somaticization (Corbo, Kallen, and Sidoti)

Thursday, April 23

No class

Tuesday, April 28

A discussion of the theories of Gerald Edelman and Giulio Tononi

• Ω Reading TBA

Thursday, April 30

A discussion of the theories of Gerald Edelman and Giulio Tononi

• Ω Reading TBA

Monday, May 4

Location TBA

Informal, roundtable discussion of final papers

Thursday, May 7 by 5:00pm

Final papers are due