

PHIL 353 – PHILOSOPHY OF COGNITIVE SCIENCE
TIME: TR – 6:00 – 7:15 PM
PLACE: CALDWELL 105

Instructor:

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Caldwell Hall - Office 210D – Office hours: R 4:00 – 6:00 p.m. or by appointment.

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About the Course:

Cognitive science is a truly interdisciplinary area of research whose objective is to understand how the mind works. As such, it comprises research coming from several disciplines, including psychology, neuroscience, artificial intelligence, philosophy, anthropology, linguistics and education. In this class we will discuss some philosophical issues having to do with the theoretical foundations of cognitive science. The class will be roughly divided in two parts. In the first part, we will study some of the classic papers that gave shape to, and help structuring, the discipline of cognitive science. In particular, we will discuss papers suggesting that the notions of ‘mental representation’ and ‘concept’ should play a role in successful explanations within cognitive science. In the second part, we will read two very recent books suggesting that we can, and should, pursue research in cognitive science without appealing to the notions of ‘mental representation’ and ‘concept’. Is cognitive science living a revolution in which two of its original and fundamental theoretical posits are going to be debunked? We’ll see...

Grading:

There will be three exams in this class. One short test on February 2nd, a longer exam on April 1st, and a final exam on May 6th. There will be also a short mid-term paper (1,250 word limit; double spaced) due on March 2nd. In addition, students will be responsible for presenting the chapters of the required texts. At the beginning of the class, students will be randomly divided in two groups, A and B. Chemero’s book will be assigned to group A, and Machery’s book will be assigned to group B. After this initial book assignment, subgroups of 2 – 3 people will be created and the chapters of their respective books will be assigned to each subgroup. Presentations shouldn’t be longer than 25 minutes, and you’ll be invited to use PowerPoint, should you decide to do so. Your final paper will be a review (2,500 word limit; double space) of the book you didn’t have to present on. That is, if you were in group A then you’ll review Machery’s book, and if you were in group B, you’ll review Chemero’s book. These reviews will be due the day of the final exam. Finally, every student should post one discussion question on Blackboard the day before the class. These discussion questions must be about the paper to be discussed in class the following day. Grades will be weighted as follows:

First exam:	10%
Second exam:	15%
Final exam:	15%
Short paper:	15%
Review:	20%

Questions + Participation: 10%
Presentation: 15%

Remember: Academic dishonesty in any form is unacceptable, because any breach in academic integrity, however small, strikes destructively at the University's life and work.

The Honor Code and the Campus Code, embodying the ideals of academic honesty, integrity, and responsible citizenship, have for over 100 years governed the performance of all academic work and student conduct at the University. Acceptance by a student of enrollment in the University presupposes a commitment to the principles embodied in these codes and a respect for this most significant University tradition.

Your participation in this course comes with my expectation that your work will be completed in full observance of the Honor Code. (You can learn more about it at <http://instrument.unc.edu>).

Required Texts:

Chemero, A. (2009). *Radical Embodied Cognitive Science*. Cambridge, MA: MIT Press.

Machery, E. (2009). *Doing without Concepts*. New York, NY: OUP.

All other texts will be available on Blackboard.

Schedule:

I. Historical background:

1. Tuesday, January 12 – Introduction; Behaviorism
Reading: Watson, J.B. "Psychology as the Behaviorist views it" and Skinner, B.F. Excerpts from *Science and Human Behavior*.
2. Thursday, January 14 – A Cognitive Critique to Behaviorism
Reading: Chomsky, N. "A Review of B.F. Skinner's *Verbal Behavior*".

II. Foundations:

3. Tuesday, January 19 – The Mind as a Turing Machine
Reading: Turing, A.M. "Computing Machinery and Intelligence".
4. Thursday, January 21 – Psychology and Computer Science
Reading: Newell, A. and Simon, H. "Computer Science as Empirical Inquiry: Symbols and Search".
5. Tuesday, January 26 – The Mind as the Software of the Brain
Reading: Block, N. "The Computer Model of the Mind".
6. Thursday, January 28 – The Chinese Room
Reading: Searle, J.R. "Minds, Brains, and Programs".
7. Tuesday, February 2 – **First exam** – Introduction to Cognitive Architecture
Reading: No reading assigned.

III. Cognitive architecture

8. Thursday, February 4 – The Language of Thought
Reading: Fodor, J. A. "Why There Still Has to Be a Language of Thought".
9. Tuesday, February 9 – Computation and Representation
Reading: Churchland, P. and Sejnowski, T. "Neural Representation and Neural Computation"
10. Thursday, February 11- Connectionism

Reading: Rumelhart, D.E. “The Architecture of Mind: A Connectionist Approach”.

11. Tuesday, February 16 - Against Connectionism
Reading: Fodor, J.A. and Pylyshyn, Z.W. “Connectionism and Cognitive Architecture: A Critical Analysis”.
12. Thursday, February 18 – Challenging computation
Reading: van Gelder, T. “What May Cognition Be, If Not Computation?”
13. Tuesday, February 23- Challenging Representations (I)
Reading: Brooks, R.A. “Intelligence without Representation”
14. Thursday, February 25 – Challenging Representations (II)
Reading: Clark, A. “The Dynamical Challenge” and “The Presence of a Symbol”.

IV. Vision (Intermezzo)

15. Tuesday, March 2 – **Short Paper Due** - The Ecological Approach
Reading: Gibson, J.J. “A Theory of Direct Visual Perception”.
16. Thursday, March 4 – 3-D Model vs Sensorimotor approach
Reading: Marr, D. Selections from *Vision* and Noe, A. & O'Regan, J.K. “On the brain basis of visual consciousness: a sensorimotor account”.

V. Concepts

17. Tuesday, March 16 – Concepts and categorization
Reading: Rosch, E. “Principles of categorization”.
18. Thursday, March 18 – Prototypes
Reading: Armstrong, S.L., Gleitman, L.R., and Gleitman, H. “What some concepts might not be” and selections from Barsalou, L. “Perceptual Symbol Systems”.
19. Tuesday, March 23 – The psychology of Concepts
Reading: Medin, D.L. “Concepts and Conceptual Structure”
20. Thursday, March 25 – The philosophy of Concepts
Reading: Fodor, J. “Concepts: A potboiler”
21. Tuesday, March 30 – A teleosemantic approach
Reading: Millikan, R. “A common structure for concepts of individuals, stuffs, and real kinds: More mama, more milk, and more mouse”.
22. Thursday, April 1 – **Second Exam**

VI. Students' presentations

23. Tuesday, April 6 – Chemero: Chapters 1, 2 and 3.
24. Thursday, April 8 – Chemero: Chapters 4 and 5.
25. Tuesday, April 13 – Chemero: Chapters 6 and 7.
26. Thursday, April 15 – Chemero: Chapters 8, 9 and 10.
27. Tuesday, April 20 – Machery: Chapters 1, 2 and 3.
28. Thursday, April 22 – Machery: Chapters 4, 5 and 6.
29. Tuesday, April 27 – Machery: Chapters 7 and 8.
30. Thursday, May 6 – **Final Exam – Final Review**