**Philosophy of Cognitive Science (2633)**

**Prof. E. Machery**

**Fall 2016**

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**Class Meetings**

W 9:30am-12:00 pm, G28

**Office Hours**

By appointment. 817CL.

**Course Description/Goals**

This course will survey the main philosophical questions raised by cognitive science. Students will acquire a comprehensive grasp of the main issues in this field. We will discuss questions such as: Is the mind a computer? Is the mind embodied and situated? Do we ascribe mental states by simulation or by means of a theory? What is consciousness?

**Prerequisites**

Graduate standing or permission of instructor.

**Texts**

Readings will be available on a shared dropbox folder. You will receive an invitation to join this folder by email. Please **do not drag and drop files** in the shared folder: you would delete them. **Do not annotate these files** either.

Relevantbooks and anthologies include:

Dawson, M.R.W. 1998. *Understanding Cognitive Science*. Blackwell.

Botterill, G. & Carruthers, P. 1999. *The Philosophy of Psychology*. CUP.

Cummins, R. & Cummins D.R. (Eds.) 2000. *Minds, Brains, and Computers*. Blackwell.

Bermudez, J.L. 2005. *Philosophy of Psychology*. Routledge.

Bermudez, J.L. 2006. *Philosophy of Psychology: Contemporary Readings*. Routledge.

Berdumez, J.L. 2010. *Cognitive Science*. Cambridge.

Cain, M. J. (2015). *The Philosophy of Cognitive Science*. Polity.

Rey, G. 1997. *Contemporary Philosophy of Mind: A Contentious Classical Approach*. 3rd ed. Blackwell.

Kim, J. 2011. *Philosophy of Mind*. Westview Press.

Relevantintroductory articles include:

Davies, M. 2005. Cognitive science. In F. Jackson and M. Smith (eds.), *The Oxford Handbook of Contemporary Philosophy*. OUP.

Mason, K., Sripada, C.S. & Stich S. 2008. The Philosophy of psychology. In D. Moral (ed.), *Routledge Companion to Twentieth Century Philosophy*. Routledge. (@ <http://www.rci.rutgers.edu/~stich/Publications/publications2.htm>)

Machery, E. 2010. Philosophy of psychology. In F. Allhoff (Ed*.), Philosophies of the Sciences*. Blackwell/Wiley.

Relevantinternet tools include:

Chalmers’s annotated bibliography: <http://consc.net/mindpapers/> (part of PhilPapers: <http://philpapers.org/>).

**Assignments**

(1) Readings and participation;

(2) A research paper due at the end of the term.

*Research paper*

The research paper may be on any subject of relevance to the seminar. To assist you in commencing work, you should submit a brief essay proposal by***November 9***. It should contain a short paragraph describing the topic to be investigated and give a brief indication of the sources you intend to use. It may, but need not, be based on the seminar presentation. I advise you to talk to me about possible topics as soon as possible. The paper should have the form and the length of a short journal article (no less than 4000 and no more than ***7000 words***). The deadline is ***December 14*, 12:00 pm (send it by *e-mail*)**. **I do NOT issue incomplete grades**, save in extraordinary circumstances. In return for the rigidity of the deadline, the seminar will not meet in the final week of term (i.e., *no class December 14*).

**Assessment**

Your grade will be based on the quality of your research paper due at the end of the term.

**Class Organization**

This course will be based on the discussion of the readings. I will lead the discussion. Participation in class discussion is expected. Reading the articles is of course mandatory. You are expected to attend every class.

**Special Needs**

If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and Disability Resources and Services (DRS), 140 William Pitt Union, 412 648 7890, drsrecep@pitt.edu, 412 228 5347 for P3 ASL users, as early as possible in the term. DRS will verify your disability and determine reasonable accommodations for this course.

**COURSE SCHEDULE**

**(Subject to revision as the semester proceeds)**

**Wednesday 08/31**

*Topic: Reduction*

*Readings*:

Fodor, J. 1974. Special sciences. *Synthese* 28: 97-115. Reprinted in J. Fodor, 1981, *Representations.*\*

Kim, J. 1992. Multiple realization and the metaphysics of reduction. *Philosophy and Phenomenological Research* 52: 1-26.

Shapiro, L. 2000. Multiple realizations. *Journal of Philosophy* 97: 635-654.\*\*

*Additional reading*:

Gillett, C. 2003. The metaphysics of realization, multiple realizability and the special sciences. *Journal of Philosophy* 100: 591-603.

**Wednesday 09/07 NO CLASS**

**Wednesday 09/14**

*Topic: Classical Computationalism and its Alternatives*

*Readings*:

Pylyshyn, Z. 1984. *Computation and Cognition*. MIT Press. Chapter 3 pp. 49-78.

Fodor, J. & Pylyshyn, Z. 1988. Connectionism and cognitive architecture: A critical analysis. *Cognition* 28: 3-71.\*

Van Gelder, T. 1992. What might cognition be, if not computation. *Journal of Philosophy* 92: 345-281. \*\*

*Additional Readings:*

Rumelhart, D.E. 1989. The architecture of mind: A connectionist approach. In M.I. Posner (ed.), 1989, *Foundations of Cognitive Science*.

Block, N. 1995. The mind as the software of the brain. In E. E. Smith & D. N. Osherson (Eds.), *Thinking: An Invitation to the Cognitive Science* (pp. 377-425). Cambridge, MA: MIT Press. (http://www.cs.ox.ac.uk/activities/ieg/e-library/sources/msb.pdf)

**Wednesday 09/21**

*Topic: Explanation*

*Readings*:

Fodor, J. 1968. The appeal to tacit knowledge in psychological explanation. *Journal of Philosophy* 65: 627-640. Reprinted in J.A. Fodor, 1981, *Representations*.\*

Clark. A. 1990. Connectionism, competence and explanation. *British Journal for the Philosophy of Science* 41: 195-222.\*\*

Piccinini, G., & Craver, C. 2011. Integrating psychology and neuroscience: Functional analyses as mechanism sketches. *Synthese* 183: 283-311.

*Additional Reading:*

Marr, D. 1982. *Vision*. Chapters 1 and 6.

**Wednesday 09/28**

*Topic: Content*

*Readings:*

Millikan, R. G. 1989. Biosemantics. *The journal of philosophy* 86: 281-297.\*

Egan, F. 1995. Computation and content. *The Philosophical Review* 104: 181-203.

Akins, K. 1996. Of sensory systems and the “aboutness” of mental states. *Journal of Philosophy* 93: 337-372.\*\*

*Additional Readings*:

Shea, N. 2013. Naturalising representational content. *Philosophy Compass* 8: 496-509.

Shea, N. 2014. Neural signaling of probabilistic vectors. *Philosophy of Science* 81: 902-913.

**Wednesday 10/05 NO CLASS**

**Wednesday 10/12**

*Topic: Innateness*

*Readings*:

Fodor, J.A. 1981. The present status of the innateness controversy. In J.A. Fodor, *Representations*. MIT Press.\*\*

Cowie. F. 1999. *What’s Within. Nativism Reconsidered.* OUP. Chapters 8-9.\*

Carey, S. 2011. The origin of concepts: A précis. *The Behavioral and brain sciences* 34*:* 113-123.

*Additional Reading*:

Laurence, S. & Margolis, E. 2001. The poverty of the stimulus argument. *British Journal for the Philosophy of Science* 52: 217-276.

Perfors, A., Tenenbaum, J. B., & Regier, T. 2011. The learnability of abstract syntactic principles. *Cognition* 118: 306-338.

**Wednesday 10/19**

*Topic: Rationality*

*Readings*:

Cohen, L.J. 1981. Can human irrationality be experimentally demonstrated? *Behavioral and Brain Sciences* 4: 317-330.\*

Eberhardt, F., & Danks, D. 2011. Confirmation in the cognitive sciences: The problematic case of Bayesian models. *Minds and Machines* 21: 389-410.\*\*

Evans, J. S. B., & Stanovich, K. E. 2013. Dual-process theories of higher cognition: Advancing the debate. *Perspectives on psychological science* 8: 223-241.

*Additional Readings:*

Tversky, A. & Kahneman, D. 1974. Judgments under uncertainty: Heuristics and Biases. *Science* 185: 1124-1131.

Chase, V. Hertwig, R. & Gigerenzer, G. 1998. Visions of rationality. *Trends in Cognitive Sciences* 2: 206-215.

Samuels, R., Stich, S. & Bishop, M. 2002. Ending the rationality wars: How to make disputes about human rationality disappear. In R. Elio (Ed.), *Common Sense, Reasoning, and Rationality*. OUP, 236-268.

**Wednesday 10/26**

*Topic: Consciousness*

*Readings*:

Block, N. 1995. On a confusion about a function of consciousness. *Behavioral and Brain Sciences* 18: 227-247.\*

Block, N. 2008. Consciousness, accessibility and the mesh between psychology and neuroscience. *Behavioral and Brain Sciences* 30: 481-508.\*\*

*Additional Readings:*

Chalmers, D. 2004. How can we construct a science of consciousness? In M. Gazzaniga, *The Cognitive Neurosciences III* (1111-1120). MIT Press.

Block, N. 2009. Comparing the major theories of consciousness. InM. Gazzaniga (Ed.), *The Cognitive Neurosciences IV* (1111-1122). MIT Press.

Koch, C. 2009. The neurobiology of consciousness. In M. Gazzaniga, *The Cognitive Neurosciences IV* (1137-1150). MIT Press.

**Wednesday 11/02 (from 9:00 to 11:15am)**

*Topic: Mindreading*

*Readings*:

Goldman, A. 1989. Interpretation psychologized. *Mind and Language* 4: 161-185.

Stich, S.P. & Nichols, S. 1993. Folk psychology: simulation or tacit theory? *Mind and Language* 7: 35-71.\*

Saxe, R. 2005. Against simulation: the argument from error. *Trends in cognitive sciences* 9: 174-179.

Apperly, I. & Butterfill, S.A. 2009. Do humans have two systems to track beliefs and belief-like states? *Psychological Review* 116: 953-970.\*\*

*Additional Reading*:

Gallese, V. & Goldman, A.I. 1998. Mirror neurons and the simulation theory of mindreading. *Trends in Cognitive Sciences* 2: 493-501.

**Wednesday 11/09 Deadline for essay proposal (Possible day change)**

*Topic: Animal Psychology*

*Readings:*

Allen, C. 1999. Animal concepts revisited: The use of self-monitoring as an empirical approach. *Erkenntnis* 51: 537-544.

Povinelli, D. J., & Vonk, J. 2004. We don’t need a microscope to explore the chimpanzee's mind. *Mind & Language* 19*:* 1-28.\*

Andrews, K. 2005. Chimpanzee theory of mind: Looking in all the wrong places?. *Mind & Language* 20: 521-536.\*

Halina, M. 2015. There is no special problem of mindreading in nonhuman animals. *Philosophy of Science* 82: 473-490.

*Additional Reading*:

Penn, D. C., Holyoak, K. J., & Povinelli, D. J. 2008. Darwin's mistake: Explaining the discontinuity between human and nonhuman minds. Behavioral and Brain Sciences 31: 109-130.

**Wednesday 11/16**

*Topic: Cognitive Penetrability*

*Readings*:

Fodor, J.A. 1985. *The Modularity of Mind*. Part II.\*

MacPherson, F. 2012. Cognitive penetration of colour experience: Rethinking the issue in light of an indirect mechanism. *Philosophy and Phenomenological Research* 84: 24-62.\*

Firestone, C., & Scholl, B. J. (forthcoming). Cognition does not affect perception: Evaluating the evidence for ‘top-down’ effects. *Behavioral and brain sciences*.

*Additional Reading*:

Pylyshyn, Z.W. 1999. Is vision continuous with cognition? The case for cognitive impenetrability of visual perception. *Behavioral and Brain Sciences* 22: 341-365*.*

**Wednesday 11/23 NO CLASS**

**Wednesday 11/30**

*Topic: Extended Cognition*

*Readings*:

Clark, A. & Chalmers, D.J. 1998. The extended mind. *Analysis* 58: 7-19.\*

Adams, F. & Aizawa, K. 2001. The bounds of cognition. *Philosophical Psychology* 14: 43-64.

Rupert, R. 2004. Challenges to the hypothesis of extended cognition. *Journal of Philosophy* 101: 389-428.

*Additional Readings*:

Brooks, R. 1990. Intelligence without representation. *Artificial Intelligence* 47: 139-160. Reprinted in R. Brooks, 1999, *Cambrian Intelligence*.

Vera, A. H. & Simon, H.A. 1993. Situated action: A symbolic interpretation. *Cognitive Science* 17: 7-48.

**Wednesday 12/07**

*Topic: Dual-Process Theory of Moral Judgment*

*Readings*:

Greene, J.D., Sommerville, R.B., Nystrom, L.E., Darley, J.M. & Cohen, J.D. 2001. An fMRI investigation of emotional engagement in moral judgment. *Science* 293: 2105-2108.\*

Berker, S. 2009. The normative insignificance of neuroscience. *Philosophy & Public Affairs* 37: 293-329.\*

Kahane, G. & Shackel, 2010. Methodological issues in the neuroscience of moral judgement. *Mind and Language* 25: 561-582.

Crockett, M. J. 2013. Models of morality. *Trends in cognitive sciences* 17: 363-366.

*Additional Reading*:

Crockett, M. J. 2016. How formal models can illuminate mechanisms of moral judgment and decision making. *Current Directions in Psychological Science* 25: 85-90.

**Wednesday 12/14 No Class—Deadline for the term paper**