Philosophy of Neuroscience
Philosophy 151
Winter, 2012

Directions and Questions for Final Exam

Bring **two** bluebooks available in the university bookstore with **nothing** written in or on them (not even your name). These may be redistributed at the time of the exam.

The exam will consist of the two parts, for which the instructions are as follows:

Part A. Answer each of the following six questions in two to three sentences each (do not go on at length—you will *not* receive extra credit for going beyond a basic answer). Each question is worth up to 5 points (30 points total).

The actual questions will be drawn from those listed below:

1. What, for Crick and Koch, is the function of consciousness?
2. What is meant by phenomenal consciousness?
3. What is meant by a zombie in the debates about consciousness?
4. What is a neural correlate of consciousness supposed to be?
5. How do the two visual streams differ with respect to conscious awareness?
6. What is a bistable percept?
7. What has been the chief strategy for identifying brain (cortical) regions that are involved in pain experience?
8. What is meant by *phantom pain*?
9. What is the difference between egocentric and allocentric representations?
10. What makes a brain process a consumer of representations?
11. What is it for a representation to be used off-line?
12. What is closed-loop control?
13. What makes representations *intentional*?
14. What would it be for senses to be servile?
15. What role do boundary conditions play in the theory-reduction model?
16. What is the relation between theory-reduction and elimination?
17. What is the research strategy associated with ruthless reduction?
18. What is LTP claimed to accomplish?
19. What is meant by memory reconsolidation?
20. What is meant by the productive continuity of a mechanism?

Parts B. Address the following two questions each in an essay (35 points each).

On the actual exam, I will pick two of the following questions. Write as clear and detailed essay as you can in the time allotted.

1. People have argued over whether pain is located in a part of the body or is in the brain. Explain the main factors that motivate the two positions. What would be a similar set of alternatives with respect to visual properties such as color or shape? Drawing upon what we have discussed about the visual system, develop an argument for both positions. How do you

think the dispute should be adjudicated in both the pain and the vision case? Defend your position.

2. What is Mandik's distinction between egocentric and allocentric representations? Make clear what makes a given representation egocentric versus allocentric and explain how these notions relate to phenomenal experiences. Drawing upon what we have discussed about the visual system, explain where and how both types of representation emerge in the brain and what inferences, if any, can be drawn from this as to the neural correlates of visual consciousness.

3. The Watt governor is often presented as a system that works without employing representations, but arguments have also been advanced to claim that it does employ representations. Present what you take to be the strongest arguments for and against the claim that the Watt governor employs representations. Identify which argument you think is the most convincing and explain why. What are the consequences of the position you defend for identifying representations in the brain?

4. Given a theory-reduction framework, what would be involved in the reduction of psychology to neuroscience? How might co-evolution figure in such a reduction? What are the primary objectives that would be served by such a reduction? Also present what you take to be the strongest argument against pursuing such a reduction. Defend a position as to whether such reductions should be pursued.

5. Explain what Bickle has in mind by ruthless reduction and what you take to be his strongest argument for ruthless reduction. Consider one of the alternative accounts of reduction and both explain how it differs from ruthless reduction and identify what you take to be the strongest argument for favoring it over ruthless reduction. Defend a position about which version of reduction should guide attempts to relate neuroscience to cognition.