

## **PSYCHOLOGY 370: THINKING AND REASONING**

John Vervaeke

Tuesday: 11-1 office hours

SS 4093

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### **PART 1: SEARCH**

1<sup>st</sup> Class ( May 12) Course Introduction. The two central metaphors of thinking and reasoning. The search inference framework and the Gestalt heritage (start).

2<sup>nd</sup> Class (May 14) The Gestalt heritage (finish) The response of the search inference framework to the Gestalt heritage and the ensuing debate. Read Weisberg and Alba

3<sup>rd</sup> Class (May 19) Insight: Theories and debates about its existence and nature. Read Metcalfe and Wiebe; Schooler. Ohlsson and Brooks; Kaplan and Simon.

4<sup>th</sup> Class (May 21) Insight and incubation. Read Dodds et al 2002 and Segal.

5<sup>th</sup> Class (May 26) Insight and transfer. Read Lockhart, Lamon, and Gick: Read Adams et al 1988; read Needham and Begg; Read Thomas and Lleras; Slepian et al 2010.

6<sup>th</sup> Class (May 28) In class test. Two sections. First is short essay answer explaining an important concept, to what important issues and debates it is relevant, how it is relevant, and any important critical response. Second section is a larger more integrative essay. Choice for both sections.

Topic proposal due May 28th. Three paragraphs. First paragraph explains how what your topic is. The second paragraph explains how and why your topic is relevant to the course. The third paragraph gives an overview of how you will pursue your topic in 3000 words. Your topic proposal will also contain a preliminary bibliography of 5 sources indicating how there is relevant material for your topic.

7<sup>th</sup> Class (June 2) Recent insight research and neuroscience Read Bowden and Jung-Beeman 2003; Read Bowden et al 2005; DeYoung et al 2008; Gihooly and Murphy 2005; Forster and Liberman 2004; Kershaw and Ohlson 2004; Knoblich and Ohlsson et al 1999; Hunt and Carroll 2008

8<sup>th</sup> Class (June 4) Recent theories of insight. Read Vandervert et al 2007; DeBartolo et al 2009; Schilling 2005; Stephan and Dixon 2009; Read Topolinski & Reber 2010; McCaffrey 2012.

9<sup>th</sup> Class ( June 9) Mindfulness, intuition, creativity and flow. Read Langer et al. 2000; Csikzentmihalyi et al 1989; Apter 1984. Forster and Dannenberg 2010.

### **PART 2 INFERENCE**

10<sup>th</sup> Class (June 11) Conditional reasoning and content effects. Read Giggs and Cox 192; Cheng and Holyoak 1985; Gigerenzer and Hug 1992; Liberman and Klar 1996

11<sup>th</sup> Class (June 16) More on Conditional Reasoning and Content effects

Essay due June 16. 3000 words argumentative essay establishing the plausibility of a clear and challenging thesis that has emerged from you researching your topic. You must critically exam the arguments and evidence of the researchers relevant to your topic, and then integrate your critical conclusions into an argument that establishes the plausibility of your thesis which you will defend against potential criticisms. Proper citation, reference list, and APA format is required.

12<sup>th</sup> Class (June 18) Drawing it all together.

### **COURSE REQUIREMENTS**

Test, May 28th worth 20%  
Topic Proposal May 28th worth 5%  
Essay June 16th worth 30%.  
Final exam worth 45%.

#### **Lateness penalty of 10% per day including weekends.**

All students must have the stated UofT St. George Campus prerequisites or their UTM/UTSC equivalents. Visiting students from other universities should have the equivalent prerequisites from their home institutions. Waivers will NOT be considered at any time and students will be removed from the course if proof of possessing the prerequisites is not presented

### **READING LIST**

- Adams, L. T., Kasserman, J. E., Yearwood, A. A., Perfetto, G. A., Bransford, J. D., & Franks, J. J. (1988).  
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right hemisphere. *Psychonomic Bulletin & Review*, 10, 730-737. doi:10.3758/BF03196539
- Bowden, E. M., Jung-Beeman, M., Fleck, J., & Kounios, J. (2005). New approaches to demystifying insight.  
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doi:10.1016/0010-0285(85)90014-3
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Social Psychology*, 56(5), 815-822. doi:10.1037/0022-3514.56.5.815
- De Bartolo, P., Mandolesi, L., Federico, F., Foti, F., Cutuli, D., Gelfo, F., & Petrosini, L. (2009). Cerebellar  
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- DeYoung, C. G., Flanders, J. L., & Peterson, J. B. (2008). Cognitive Abilities Involved in Insight Problem Solving: An Individual Differences Model. *Creativity Research Journal*, 20, 278-290.
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- Forster, J. & Dannenberg L (2010): GLOMO: A Systems Account of Global Versus Local Processing, *Psychological Inquiry* 12:3, 175-197.
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- Gilhooly, K., & Murphy, P. (2005). Differentiating insight from non-insight problems. *Thinking & Reasoning*, 11, 279-302. doi:10.1080/13546780442000187
- Griggs, R. A., & Cox, J. R. (1982). The elusive thematic-materials effect in Wason's selection task. *British Journal of Psychology*, 73(3), 407-420. doi:10.1111/j.2044-8295.1982.tb01823.x
- Hunt, C., & Carroll, M. (2008). Verbal overshadowing effect: how temporal perspective may exacerbate or alleviate the processing shift. *Applied Cognitive Psychology*, 22(1), 85-93. doi:10.1002/acp.1352
- Kaplan, C. A., & Simon, H. A. (1990). In search of insight. *Cognitive Psychology*, 22(3), 374-419. doi:10.1016/0010-0285(90)90008-R
- Kershaw, T. C., & Ohlsson, S. (2004). Multiple Causes of Difficulty in Insight: The Case of the Nine-Dot Problem. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 30(1), 3-13.
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- Kounios, J., & Beeman, M. (2009). The Aha! Moment: The Cognitive Neuroscience of Insight. *Current Directions in Psychological Science*, 18.4, 210-216

- Langer, E. J., & Moldoveanu, M. (2000). The Construct of Mindfulness. *Journal of Social Issues*, 56(1), 1-9.  
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- Slepian M. L., Weisbuch M., Rutchick, A. M., Newman, L. S. & Ambady, N. (2010). Shedding light on insight: Priming bright ideas. *Journal of Experimental Social Psychology*, 46, 696-700.
- Stephen, D., & Dixon, J. (2009). The Self-Organization of Insight: Entropy and Power Laws in Problem Solving. *The Journal of Problem Solving*, 2(1).
- Teresa M., A. (1993). Motivational synergy: Toward new conceptualizations of intrinsic and extrinsic motivation in the workplace. *Human Resource Management Review*, 3(3), 185-201. doi:10.1016/1053-4822(93)90012-

- Thevenot, C., & Oakhill, J. (2008). A generalization of the representational change theory from insight to non-insight problems: The case of arithmetic word problems. *Acta Psychologica*, 129, 315-324.
- Thomas, L. E., & Lleras, A. (2009). Covert shifts of attention function as an implicit aid to insight. *Cognition*, 111, 168-174.
- Topolinski, S. & Reber, R. (2010) Gaining Insight Into the “Aha” Experience. *Current Directions in Psychological Science* 19:402 DOI : 10.1177/0963721410388803.
- Vandervert, L. R., Schimpf, P. H., & Liu, H. (2007). How Working Memory and the Cerebellum Collaborate to Produce Creativity and Innovation. *Creativity Research Journal*, 19, 1-18.  
doi:10.1080/10400410709336873
- Weisberg, R. W., & Alba, J. W. (1981). An examination of the alleged role of “fixation” in the solution of several “insight” problems. *Journal of Experimental Psychology: General*, 110(2), 169-192. doi:10.1037/0096-3445.110.2.169