

# Conceptualizing the Abstract: Beyond the Physical World

Seminars in Psychology (PSYC 770)  
 Special Topics in Linguistics (LING 585)  
 Emory University  
 Fall 2005

## Time and Place

Wednesdays: 9:00 – 11:45  
 Psychology 219

## Instructor Information

Instructors:	Lawrence Barsalou	Richard Patterson	Phillip Wolff
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## Course Description

Most research on concepts and categories has focused on concrete objects. We know much about how people represent birds, trees, airplanes and cars but little about how people represent events, causality, time, truth, and justice. The absence of research on abstract concepts is striking because, arguably, they play a much more central role in the mental and social activity of humans than do concrete concepts—they appear central to what it means to be human. Increasingly, however, researchers across multiple disciplines including psychology, neuroscience, philosophy, and linguistics are addressing abstract concepts, exploring issues such as: (1) What is the conceptual content of abstract concepts, and what processes operate on it? (2) Is this content grounded in the brain's modality-specific systems, or is it represented in some other manner? (3) What neural systems represent and process abstract concepts? (4) How are abstract concepts acquired during development? (5) How do abstract concepts vary across cultures? This seminar will discuss literature from multiple disciplines related to these issues, and will work toward new theories of abstract concepts and methods for studying them.

## Format

The course will be conducted as a seminar / workshop. Students will be expected to present papers, write weekly reaction papers and write an end-of-semester paper. Details are provided below.

## Course Materials

Articles will be put on electronic reserve. Electronic reserve can be reached at <http://www.library.emory.edu>. Press the "Reserves Direct" button at the top of the page. You will be prompted for your university login and password. After entering these, you will be shown the option "Add a class." After pressing this, you will be able to "Search by Instructor" for any of the three instructors. Click the appropriate class and you're all set.

## Course Requirements

**Class preparation and participation.** All participants are required to have read every assigned article carefully prior to class. All class participants should also bring a printout of the assigned readings.

**Student presentations.** Students will be required to present 4-5 papers during the semester. A presentation should accomplish three objectives. First, it should summarize the paper (~10 minutes). In summarizing a paper, you should be sure to specify 1) the problem being

investigated, 2) hypotheses, 3) predictions, 4) the experimental methods used to test these predictions, including details about the stimuli and procedure, 5) the key findings, and 6) conclusions. Second, class presentations should provide a critical reaction to the paper (~5 minutes). In this part of your presentation, you should go beyond what was said in the paper. There are many ways in which you might react to a paper. For example, you might challenge the hypotheses, methodology, or conclusions. Alternatively, you might elaborate on the significance (or insignificance) of the paper. Finally, your presentation should include 2-3 deep questions for the class. Deep questions often spur class discussion. However, perhaps the most effective way of spurring class discussion is to describe the papers clearly and with sufficient detail. Each presentation should include a 1 page handout. Please do not read a written text for your presentation. Speak from the outline you hand out, and you should know the article well enough to present it from memory. Presentations will be graded on the quality of the summary, critical reaction, and overall coherence.

**Tickets.** For each class, students must turn in a “ticket.” The tickets should have two parts: a comment and a question. Ask good questions, that is, questions whose answers (if known) would be consequential. In formulating your ticket, you might begin with an observation (the comment part), then raise a question. Alternatively, you might begin with a question, and then propose an answer. Your tickets should be 120 words or less, printed out (not emailed), and turned in at the end of class. Be prepared to read your comments and questions. Your tickets will be graded as either submitted or unsubmitted.

**Course paper.** If you are taking the seminar for a grade, you will need to write a class paper towards the end of the semester. Your paper should be “thesis-driven.” Start the paper by identifying a problem or question (~ 2 paragraphs). Then state your thesis. A thesis is signaled by a statement like “In this paper I will argue that...” Once you state your thesis, you should then briefly outline how you plan to defend your thesis. The rest of the paper should constitute your defense and final conclusions. Your defense should cite studies and theories from the literature. You are encouraged, but not required, to go beyond the readings covered in the course.

All papers must 7-8 pages long, 1.5 spacing, with 1 inch margins, in 12 point Times-Roman font (or 11 point Arial). Citations and references should be in APA style. Papers not meeting these style requirements will be returned ungraded.

Final papers are due by the 5 PM on Friday, December 16. Papers will be graded on the following dimensions: 1) thesis quality, 2) literature covered, 3) logical coherence, and 4) written presentation.

## **Grades**

Your class grade will be based on your class presentations (40%), tickets (30%), and class paper (30%).

Students taking the course Pass/Fail must attend course meetings regularly, read the assigned articles, turn in the class questions regularly and present 4-5 papers. A class paper is not required.

## Schedule and Assigned Readings

September		
Sept.	7	<p><b>Introduction</b></p> <p>Central issues to be addressed</p> <p>Instructor presentations on central issues in the area that the seminar will address</p>
Sept.	14	<p><b>Philosophical work on abstract ideas</b></p> <p>Berkeley, G. (1998). <i>A treatise concerning the principles of human knowledge</i> (Jonathan Dancy, Ed.). Oxford: Oxford University Press. [read the introduction]</p> <p>Price, H. H. (1953). <i>Thinking and experience</i>. Cambridge, MP: Harvard University Press. [read Ch. IX, Images as General Symbols (pp. 265-297), and Ch. V, The Logic of Sign-Cognition (pp. 123-143)]</p> <p>Russell, B. (1921). <i>The analysis of mind</i>. London: George Allen &amp; Unwin Ltd. [read pp. 219-222 from Lecture XI, General Ideas and Thought]</p> <p>Geach, P. (1957). <i>Mental acts: Their content and their objects</i>. London: Routledge &amp; Kegan Paul. [read Sections 5-10, pp. 11-38]</p> <p>Barsalou, L.W. (1999). Perceptual symbol systems. <i>Behavioral and Brain Sciences</i>, 22, 577-660. [amateur philosopher, read Sections 1.3-2.4, 3.4.2-3.4.4, pp. 580-586, 600-603]</p> <p>Taylor, C. (1989). <i>Sources of the self: The making of the modern identity</i>. Cambridge, MA: Harvard. [read chapter 4]</p>
Sept.	21	<p><b>Representative work from cognitive psychology on abstract concepts</b></p> <p>Paivio, A. (1991). Dual coding theory: retrospect and current status. <i>Canadian Journal of Psychology</i>, 45, 255-287.</p> <p>Schwanenflugel, P.J. (1991). Why are abstract concepts hard to understand? In P.J. Schwanenflugel (Ed.), <i>The psychology of word meaning</i> (pp. 223-250). Mahwah, NJ: Erlbaum.</p> <p>Wiemer-Hastings, K., Krug, J., &amp; Xu, X. (2001). Imagery, context availability, contextual constraint, and abstractness. <i>Proceedings of the 23rd Annual Conference of the Cognitive Science Society</i> (pp. 1106-1111). Mahwah, NJ: Erlbaum.</p> <p>Wiemer-Hastings, K., Barnard, K.K., &amp; Faelnar, J. (2004). Structural differences in abstract and concrete item categories. <i>Proceedings of the 26th Annual Conference of the Cognitive Science Society</i> (pp. 1452-1457). Mahwah, NJ: Erlbaum.</p>

		Barsalou, L.W., & Wiemer-Hastings, K. (2005). Situating abstract concepts. In D. Pecher and R. Zwaan (Eds.), <i>Grounding cognition: The role of perception and action in memory, language, and thought</i> (pp. 129-163). New York: Cambridge University Press.
Sept.	28	<p><b>Representative work from cognitive neuroscience on abstract concepts</b></p> <p>Breedin, S.D., Saffran, E.M., &amp; Coslett, H.B. (1994). Reversal of the concreteness effect in a patient with semantic dementia. <i>Cognitive Neuropsychology</i>, <i>11</i>, 617-660.</p> <p>Crutch, S.J., &amp; Warrington, E.K. (2005). Abstract and concrete concepts have structurally different representational frameworks. <i>Brain</i>, <i>128</i>, 615-627.</p> <p>Sabsevitz, D.S., Medler, D.A., Seidenberg, M., &amp; Binder, J.R. (2005). Modulation of the semantic system by word imageability. <i>NeuroImage</i>, <i>27</i>, 188-200.</p> <p>West, W.C., &amp; Holcomb, P.J. (2000). Imaginal, semantic, and surface-level processing of concrete and abstract words: <i>An electrophysiological investigation</i>. <i>Journal of Cognitive Neuroscience</i>, <i>12</i>, 1024-1037.</p>
October		
Oct.	5	<p><b>Conceptual Metaphor Theory and Criticism</b></p> <p>Lakoff, G., &amp; Johnson, M. (1980). <i>Metaphors we live by</i>. Chicago: University of Chicago Press [read pages 1-21, 56-60]</p> <p>Lakoff, G., &amp; Johnson, M. (1999). <i>Philosophy in the flesh: The embodied mind and its challenge to western thought</i>. Basic Books: New York. (read chapter 4)</p> <p>Murphy, G. L. (1996). On metaphoric representation. <i>Cognition</i>, <i>60</i>, 173-204.</p> <p>Glucksberg, S., &amp; McGlone, M. S. (1999). When love is not a journey: What metaphors mean. <i>Journal of Pragmatics</i>, <i>31</i>, 1541-1558.</p> <p>Stern, J. (2000). <i>Metaphor in context</i>. Cambridge, MA: MIT Press. [read chapter 5, Sec. 5, pp. 176-187]</p>
Oct.	12	<p><b>Time Metaphors</b></p> <p>Lakoff, G., &amp; Johnson, M. (1999). <i>Philosophy in the flesh: The embodied mind and its challenge to western thought</i>. Basic Books: New York. (read chapter 10)</p> <p>Boroditsky, L. &amp; Ramscar, M. (2002). The roles of body and mind in abstract thought. <i>Psychological Science</i>, <i>13</i>, 185-188.</p> <p>Casasanto, D. &amp; Boroditsky, L. (2003). Do we think about time in terms of space? <i>Proceedings of the 25th Annual Meeting of the Cognitive Science Society</i>. Boston, MA.</p>

		<p>Gentner, D. (2001). Spatial metaphors in temporal reasoning. In M. Gattis (Ed.), <i>Spatial schemas in abstract thought</i> (pp. 203-222). Cambridge, MA: MIT Press.</p> <p>Nobre, A. C., &amp; O'Reilly, J. (2004). Time is of the essence. <i>Trends in Cognitive Sciences</i>, 8, 387-389.</p> <p>Walsh, V. (2003). Time: the back-door to perception. <i>Trends in Cognitive Sciences</i>, 7, 335-338.</p>
Oct.	19	<p><b>Research on Conceptual Metaphor Theory (visitor: Seana Coulson)</b> <b>Colloquium: Mon. Oct. 17, 4:00 WH 101</b></p> <p>Talmy, L. (1999). Fictive Motion in language and 'ception.' In P. Bloom, M.A. Peterson, L. Nadel, &amp; M.F. Garret (Eds.), <i>Language and space</i> (pp. 211-276). Cambridge: MA: MIT Press.</p> <p>Matlock, T. (2004). Fictive motion as cognitive simulation. <i>Memory &amp; Cognition</i> 32, 1389-1400.</p> <p>Coulson, S. &amp; Van Petten, C. (2002). Conceptual integration and metaphor: An event-related potential study. <i>Memory &amp; Cognition</i> 30, 958-968.</p> <p>Coulson, S. (submitted). Metaphor and the brain. In R.W. Gibbs, Jr. (Ed.) <i>Handbook of metaphor</i>. Cambridge, UK: Cambridge University Press.</p>
Oct.	26	<p><b>Linguistic Analyses of Events</b></p> <p>Van Valin, R. D., Jr. and LaPolla, R. J. (1997). <i>Syntax: structure, meaning and function</i>. Cambridge: Cambridge University Press. [read chapter 3]</p> <p>Levin, B., &amp; Rappaport Hovav, M. (2005). <i>Argument realization: Research surveys in linguistics series</i>. Cambridge, UK: Cambridge University Press. [read chapter 2]</p> <p>Goldberg, A.E. (1995) <i>Constructions: A construction grammar approach to argument structure</i>. Chicago: University of Chicago Press. [chapter 1 required, chapter 2 optional]</p> <p>Slobin, D. I. (2003). Language and thought online: Cognitive consequences of linguistic relativity. In D. Gentner &amp; S. Goldin-Meadow (Eds.), <i>Language in mind: Advances in the investigation of language and thought</i> (pp. 157-191). Cambridge, MA: MIT Press.</p>
November		
Nov.	2	<p><b>Role Concepts in Events</b></p> <p>Van Valin, R. D., Jr. and LaPolla, R. J. (1997). <i>Syntax: Structure, meaning and function</i>. Cambridge: Cambridge University Press. [read chapter 4]</p>

		<p>Levin, B. and M. Rappaport Hovav (2005) <i>Argument realization</i>, Research Surveys in Linguistics Series. Cambridge, UK: Cambridge University Press. [read chapter 4]</p> <p>Taylor, C. (1989). <i>Sources of the self: The making of the modern identity</i>. Cambridge, MA: Harvard. [read chapter 1]</p> <p>Barsalou, L.W. (1991). Deriving categories to achieve goals. In G.H. Bower (Ed.), <i>The psychology of learning and motivation: Advances in research and theory</i> (Vol. 27, pp. 1-64). San Diego, CA: Academic Press.</p> <p>Barsalou, L.W. (1999). Perceptual symbol systems. <i>Behavioral and Brain Sciences</i>, 22, 577-660. [read section 3.4.4, pp. 602-603]</p> <p>Gentner, D., &amp; Kurtz, K. (2005). Relational categories. In W. K. Ahn, R. L. Goldstone, B. C. Love, A. B. Markman &amp; P. W. Wolff (Eds.), <i>Categorization inside and outside the lab</i>. (pp. 151-175). Washington, DC: APA.</p>
Nov.	9	<p><b>Grounding event knowledge in the brain (visitor: David Kemmerer)</b> <b>Talk: Tues. Nov. 8, 4:00, WH 101</b></p> <p>Kemmerer, D. (in press). Action verbs, argument structure constructions, and the mirror neuron system. In M. Arbib (Ed.), <i>Action to language via the mirror neuron system</i>. Cambridge, UK: Cambridge University Press.</p> <p>Kemmerer, D., 2005, The spatial and temporal meanings of English prepositions can be independently impaired, <i>Neuropsychologia</i>, 43, 795-806.</p> <p>O'Keefe, J. (2003). Vector grammar, places, and the functional role of the spatial prepositions in English. In E. van der Zee &amp; J. Slack (Eds.). <i>Representing direction in language and space</i> (pp. 69-85). Oxford: Oxford University Press.</p> <p>O'Keefe, J. (1996). The spatial prepositions in English, vector grammar, and the cognitive map theory, in P. Bloom, M. A. Peterson, L. Nadel, and M. F. Garrett (Eds.), <i>Language and space</i> (pp. 277-316). Cambridge, Mass.: MIT Press, Bradford Books.</p>
Nov.	16	<p><b>Causation I: Hume versus Kant</b></p> <p>Watkins, E. (2005). <i>Kant and the metaphysics of causality</i>. Cambridge, UK: Cambridge. [read pages 1-22]</p> <p>Hume, D. (2000). <i>A treatise of human nature</i> (David Fate Norton and Mary J. Norton, Eds.). Oxford: Oxford University Press. [read Secs.14, 15, viz., Of the Idea of Necessary Connection; Rules By Which to Judge of Cause and Effect).</p> <p>Kant, I. (1977). <i>Prolegomena to any future metaphysics</i> (S. Cahn, Ed.). Indianapolis: Hackett. [read Second Part of the Main Transcendental</p>

		<p>Question: How Is Pure Natural Science Possible?, pp. 786-804]</p> <p>Ahn, W., &amp; Kalish, C. W. (2000). The role of mechanism beliefs in causal reasoning. In F. C. Keil &amp; A. W. Robert (Eds.), <i>Explanation and cognition</i> (pp. 227-253). Cambridge, MA: MIT Press.</p> <p>Cheng, P. W. (1993). Separating causal laws from casual facts: Pressing the limits of statistical relevance. In D. L. Medin (Ed.), <i>The psychology of learning and motivation</i> (Vol. 30, pp. 215-264). New York: Academic Press.</p> <p>Luhmann, C. C. &amp; Ahn, W. (2005). The meaning and computation of causal power: A critique of Cheng (1997) and Novick and Cheng (2004). <i>Psychological Review</i>, 112, 685-693.</p>
Nov.	23	THANKSGIVING VACATION
Nov.	28 (Mon 6:00)	<p><b>Causation II: Clinical/Social Applications (visitor : Woo-Kyoung Ahn)</b>  <b>Colloquium: Mon. Nov. 28, 4:00, WH 101</b></p> <p>Kim, N. &amp; Ahn, W. (2002). Clinical psychologists' theory-based representations of mental disorders predict their diagnostic reasoning and memory. <i>Journal of Experimental Psychology: General</i>, 131, 451 - 476.</p> <p>Ahn, W., Novick, L., &amp; Kim, N. S. (in press). "Understanding it makes it more normal": Causal explanations influence person perception. <i>Psychonomic Bulletin and Review</i>.</p> <p>Malle, B. F. (2002). Verbs of interpersonal causality and the folk theory of mind and behavior. In M. Shibatani (ed.), <i>The grammar of causation and interpersonal manipulation</i> (pp. 57-83). Amsterdam: John Benjamins Publishing Company.</p>
December		
Dec.	7	<p><b>Causation III: Tendencies</b></p> <p>Bigelow, J., Ellis, B., &amp; Pargetter, R. (1988). Forces. <i>Philosophy of Science</i>, 55, 614-630.</p> <p>Bigelow, J. &amp; Pargetter, R. (1990). Metaphysics of causation. <i>Erkenntnis</i>, 33, 89-119.</p> <p>Wolff (submitted). Representing causation.</p> <p>Lakusta, L. and Landau, B. (2005) Starting at the end: The importance of goals in spatial language. <i>Cognition</i>, 96, 1-33.</p> <p>Chatterjee, A., Southwood, M. H., &amp; Basilico, D. (1999). Verbs, events, and spatial representations. <i>Neuropsychologia</i>, 37, 395-402.</p> <p>Pouget, A., Dayan, P., &amp; Zemel, R. (2000). Information processing with population codes. <i>Nature Neuroscience</i>, 1, 125-132.</p>

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