

Core Seminar in Knowledge and Conceptual Processes
Psychology 507
Emory University
Fall 2001

Time and Location

Thursdays, 1:00—3:45 PM (except for 4 meetings on Tuesdays, 6:00—8:45 PM)
 Psychology 219

Instructors

Instructor:	Phillip Wolff
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Office hours:	By appointment
Phone:	(404) 727-7140
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Instructor:	Lawrence W. Barsalou
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Email:	barsalou@emory.edu

Overview

This course is required of all graduate students in the Cognition and Development Program. Students from other Psychology programs, other Emory departments, and other Atlanta universities are also welcome. For various topics in knowledge and conceptual processes, important issues, theories, findings, and methods will be addressed. In addition, each topic will be addressed from multiple perspectives. The perspectives most likely to be addressed include cognitive psychology, developmental psychology, cognitive neuroscience, and computational modeling, with some coverage of linguistics and anthropology.

Instructor Presentations

The instructors will give the first five presentations from Sept. 2 to Sept 30. These presentations will cover basic background material, central constructs, and important issues in relevant literatures. Assigned readings will also present background material. These initial presentations will lay the groundwork for the remainder of the course, with the subsequent eight presentations focusing on more specific topics.

Student Presentations

Groups of typically two students will give the last eight presentations. The process of giving a presentation will include the following steps:

1. Immediately following the first course meeting, students should look over the topics for the final eight presentations, and establish their preferences for ones to give. By noon on Friday, Sept. 3, each student should send a ranked list of his or her top four topic choices to Larry Barsalou by email.
2. On Friday afternoon, Sept. 3, the instructors will assign topics to students, letting them know by email.

3. By class on Thursday, Sept. 23, each group of students working together should submit one proposal for their joint presentation. This proposal should include the following sections:
 - (a) Specific sub-topics to be covered, along with who will cover which sub-topic.
 - (b) The articles to be covered in the presentation, listed separately for each sub-topic.
 - (c) General themes to be articulated over the course of the presentation.
 - (d) Readings to be assigned for the class that will be put on reserve

For (b), significantly more articles should be covered in the presentation than are assigned as class readings in (d). In preparing for a presentation, students are expected to read broadly in the relevant literature, and the presentation should reflect this. Use the references in the syllabus for each topic to *begin* your search for relevant articles. In general, the amount of literature in an area usually greatly exceeds the examples that we have listed. Only use the articles provided as a starting point, which are typically articles that are well known, but not most recent. PsychInfo can be very useful in finding relevant and recent literature. Also, if you can find literature reviews for a sub-topic, it can direct you to much relevant literature. By no means must you cover all the articles listed later—these are simply suggestions to give you a sense of relevant literature. Furthermore, it may be possible to add, delete, or change sub-topics to cover. In general, feel free to re-organize the sub-topics for a presentation, if you can come up with a good plan for doing so. Such changes should be addressed in proposals, and perhaps discussed with the instructors beforehand.

For (d), the *total* number of pages for all readings should typically be around 50 pages. Articles selected can provide good examples of specific experiments in an area, reviews of relevant findings, major theoretical statements, etc. Excerpts from papers can be used—entire papers are not necessary. This is one way to increase the number of articles to which the class is exposed. Textbook extracts should be used sparingly. The set of papers for a presentation should not be highly similar, but should typically complement one another, covering different material, perhaps from different perspectives.

References for all articles should be in APA format. If excerpts are to be used, please indicate them in brackets.

4. On Friday, Sept. 24, the instructors will provide students with feedback and grades on their proposals.
5. By Tuesday Oct. 5, each group of students should submit their revised proposal, except for students presenting on Oct. 5, who should turn in their revision by Thursday, Sept. 30. The instructors will work with students presenting on Oct. 5 to facilitate their preparation. Revised proposals will also receive grades.
6. By ***Monday of the week before a presentation***, the students making the presentation must provide the articles for the assigned readings. There are three ways that an article can be provided. The most preferred way is to provide a URL for an article where it can be found on line, as in Euclid. The second preferred way is to provide a pdf copy of the article either obtained off the web or scanned. For either of these methods, send an email message to Larry Barsalou with either the URL in it, or with the pdf file attached. ***It is essential that the message also include the full reference of the article in APA style.*** Once LB has this information, he will put the article on library reserve. The library only allows instructors to place articles on reserve electronically.

It is also possible to place an article on reserve by fax, but this is least preferred, given that it produces the lowest quality copy. If this is the only way to put an article on reserve, here's the procedure to follow. Using the department fax machine (or any other), fax the article to (404) 727-9089 (this is a Woodruff Library fax line for putting articles on reserve). It is essential that you use a clean high-contrast copy; otherwise, class participants will have

trouble reading the article after it has been faxed. If the article is longer than 25 pages, it must be broken into two pieces, each less than 25 pages, faxed separately. Immediately after faxing the article over, send LB an email message saying that the article has been faxed. ***It is essential your email message provide the phone number of the fax machine from which you sent the article (it's 404-727-0372 for the department fax), and also the full reference of the article in APA style.*** The article cannot be placed on reserve without these two pieces of information. Note that after 24 hours, a faxed article will be purged from the library system unless it is claimed by the instructors. So please be sure that you email LB immediately after faxing the article, and that you include all the required information just described. Also verify that LB received your message and is around to finalize the process of putting the article on reserve.

7. Give the presentation. Each student making a presentation should be equally responsible for the reading that went into it, and for the content presented. Each student should have roughly equal time during presentation. If one student's presentation is going more slowly than expected, it should be shortened during class so that all presenters have equal time. Allow some time during each presentation for discussion. For example, if a student has an 1 hour and 15 minutes total presentation time, allow 15 to 20 minutes for discussion. Students can limit discussion to some extent if it goes beyond this amount, so that they have time to cover their prepared material. However, significant discussion is highly desirable.

All presentations should be given using PowerPoint. The classroom has a PowerPoint projector. If you need a laptop, one can be checked out from the main office. Please be sure to reserve a laptop well in advance of your presentation. It might be a good idea to reserve one the day you receive your topic assignment (Sept. 3).

Please follow good PowerPoint style. Use a large font that can be easily read at the back of the room (e.g., 18-20 point Arial). Do not fill your overheads with too much text and detail that overwhelms viewers. Use graphical aids such as graphs, photos, and videos. In assigning grades for presentations, PowerPoint style will be assessed along with content, quality of verbal presentation, and ability to promote and handle discussion.

Conceptually, don't just run through a series of empirical findings in a random list. Instead, frame your presentation with major themes, issues, debates, theories, etc. Then embed the findings that you review within this framework. Telling a "research story" of some sort is often a good way to organize your material. Raise points for discussion. At the end, synthesize what you've covered.

8. At the end of your slides, please include full references in APA style for every paper that you covered in your presentation. If there are other relevant papers that you discovered, which you didn't have time to cover, please feel free to include them in the references as well in a separate section.
9. Using PowerPoint's print function, print out a copy of your slides, roughly 2-4 per page in black and white. Take a master set to the main office a day or so before your presentation, and have enough copies made so that everyone in the class can have one on which they can take notes. Bring the copies to class the day of your presentation and hand them out beforehand. In printing the slides, reduce them down as much as possible to save paper and copies, but don't make them so small that people can't read them. Again, a large font on the slides will help.

Class Questions

Beginning with the second course meeting (Sept. 9), each student not making a presentation must bring to class a list of questions on the assigned readings. There must be at least one question or

comment on each reading assigned. These need to be typed on hard copy (not emailed). Students should consult these during the presentation as relevant to discussion. At the end of class, questions should be turned in to the instructors. Questions will not be graded but will be simply counted as submitted, as long as they are satisfactory in showing adequate preparation.

Written Paper

Each student must write a course paper. In principle, the paper can be on any topic related to the course material. Practically, however, it would be easiest to write a paper on the student's presentation topic.

A paper should not just review a random list of empirical results. Instead, themes, issues, theories, etc. should frame the paper's content. The paper should attempt to resolve an issue, make a point, tell a research story, etc. All papers must be 10-20 pages in length, double-spaced, with 1 inch margins, in 12 point Times-Roman font. Papers not meeting these style requirements will be returned ungraded.

A draft of each paper is due by class on November 2. The instructors will provide feedback and grades by November 11. Final papers are due by 5 PM on Monday, December 6.

The graded draft of the paper must be turned in together with the final version. The final version should not be a superficial revision of the draft but should show significant revision. The instructors will compare the final version to the draft while grading the final version, and grades will partially reflect quality of revision.

Grades

Grades will reflect the following criteria:

1. Presentation proposal (themes, topics, covered readings, assigned readings)
 - a. draft version (5%)
 - b. final version (15%)
2. Presentation (themes, literature covered, verbal presentation, PowerPoint style, discussion) (30%)
3. Class questions (10%)
4. Written paper (themes, literature covered, coherence, written presentation)
 - a. draft version (10%)
 - b. final version (30%)

Students taking the course Pass/Fail must attend course meetings regularly, read the assigned articles, turn in the class questions regularly, submit both drafts of a presentation proposal, and give a presentation. The written paper is not required.

Date	Topics	Readings
Sept. 2	Basic Issues Functions of a conceptual system Levels of description Nature versus nurture Modular versus interactive / domain-general	
Sept. 9	Representation	Theories of concepts: classic, prototype, exemplar, connectionist Barsalou, L.W., & Hale, C.R. (1993). Components of conceptual representation: From feature lists to recursive frames. In I. Van Mechelen, J. Hampton, R. Michalski, & P. Theuns (Eds.), <i>Categories and concepts: Theoretical views and inductive data analysis</i> (97-137). San Diego, CA: Academic Press. [read all] Feature lists vs. frames Barsalou, L.W. (1992). Frames, concepts, and conceptual fields. In E. Kittay & A. Lehrer (Eds.), <i>Frames, fields, and contrasts: New essays in semantic and lexical organization</i> (pp. 21-74). Hillsdale, NJ: Lawrence Erlbaum Associates. [optional] Kinds of concepts Medin, D. L., Lynch, E. B., & Solomon, K. O. (2000). Are there kinds of concepts? <i>Annual Review of Psychology</i> , 51, 121-147. [optional] Thematic vs. taxonomic organizations Murphy, G. (2001). Causes of taxonomic sorting by adults: A test of the thematic-to-taxonomic shift. <i>Psychonomic Bulletin & Review</i> , 8, 834-839. [read all] Lin, E.L., & Murphy, G.L. (2001). Thematic relations in adults' concepts. <i>Journal of Experimental Psychology: General</i> , 130, 3-28. [optional]
Sept. 14	Similarity and background knowledge (Tuesday 6-9 PM)	Similarity Medin, D. L., Goldstone, R. L., & Gentner, D. (1993). Respects for similarity. <i>Psychological Review</i> , 100(2), 254-278. [read all] Typicality Barsalou, L.W. (1987). The instability of graded structure: Implications for the nature of concepts. In U. Neisser (Ed.), <i>Concepts and conceptual development: Ecological and intellectual factors in categorization</i> (pp. 101-140). Cambridge: Cambridge University Press. [optional] Function Chaigneau, S.E., Barsalou, L.W. (in press). The role of function in categorization. <i>Theoria et Historia Scientiarum</i> . [optional] Theory-theory (background knowledge) Murphy, G. L. (2000). Explanatory concepts. In R. A. Wilson & F. C. Keil (Eds.), <i>Explanation and cognition</i> (pp. 361-392). Cambridge, MA: MIT Press. [read all]
Sept. 23	Grounding knowledge Modal versus amodal	Barsalou, L.W. (2003). Abstraction in perceptual symbol systems. <i>Philosophical Transactions of the Royal Society of London: Biological Sciences</i> , 358, 1177-1187.

[read all]

Neural systems

Martin, A., Ungerleider, L.G., & Haxby, J.V. (2000). Category-specificity and the brain: The sensory-motor model of semantic representations of objects. In M.S. Gazzaniga (Ed.), *The new cognitive neurosciences* (2nd ed., 1023-1036). Cambridge, MA: MIT Press. [read all]

Embodiment

Barsalou, L.W., Niedenthal, P.M., Barbey, A., & Ruppert, J. (2003). Social embodiment. In B. Ross (Ed.), *The Psychology of Learning and Motivation*, Vol. 43 (pp. 43-92). San Diego: Academic Press. [read pages 45-62]

Situated cognition

Barsalou, L.W. (2003). Situated simulation in the human conceptual system. *Language and Cognitive Processes*, 18, 513-562. [read pages 515-532]

Sept. 30 **Types of knowledge**

Implicit versus explicit

Roediger, H. L. (1990). Implicit memory: Retention without remembering. *American Psychologist*, 45, 1043-1056. [read all]

Symbolic versus sub-symbolic representations: Connectionist models

Pinker, S. (1997). *How the mind works*. W. W. Norton & Company: New York. [read pages 98-131]

Concepts and language

Malt, B. C., Sloman, S. A., Gennari, S., Shi, M., & Wang, Y. (1999). Knowing versus naming: similarity and the linguistic categorization of artifacts. *Journal of Memory and Language*, 40, 230-262. [read all]

Oct. 5 **Category learning in children (Tuesday 6-9 PM)**

Infant's first categories

Quinn, P. (2002). Category representation in young infants. *Current Directions of Psychological Science*, 11, 66-70.

Quinn, PC, & Eimas, PD (1997). A reexamination of the perceptual-to- conceptual shift in mental representations. *Review of General Psychology*, 1, 271-287.

Needham, A., & Baillargeon, R. (2000). Infants' use of featural and experiential information in segregating and individuating objects: A reply to Xu, Carey, and Welch (1999). *Cognition*, 74, 255-284.

Xu, F., Carey, S., & Welch, J. (1999). Infants' ability to use object kind information for object individuation. *Cognition*, 70, 137-166.

Xu, F. & Carey, S. (2000). The emergence of kind concepts: A rejoinder to Needham & Baillargeon. *Cognition*, 74, 285-301.

Role of names in children's

Smith, L. B., Jones, S. S., & Landau, B. (1996). Naming in young children: a dumb attentional mechanism? *Cognition*, 60, 143-171.

Smith, L.B. (1999). Children's noun learning: How general processes make specialized learning mechanisms. In MacWhinney, B. (Ed.) *The emergence of language: 28th Carnegie Symposium on Cognition*, Mahwah, NJ:LEA.

Smith, L.B., Jones, S.S., Landau, B., Gershkoff-Stowe, L., & Samuelson, L. (2002). Object name learning provides on-the-job training for attention. *Psychological Science, 13*, 13-19

Role of function in children's concepts

Kemler-Nelson, D. G. (1995). Principle-based inferences in young children's categorization: Revisiting the impact of function on the naming of artifacts. *Cognitive Development, 10*, 347-380.

Kemler Nelson, D. G. (1999). Attention to functional properties in toddlers' naming and problem-solving. *Cognitive Development, 14*, 77-100.

Kemler-Nelson, D. G., Russell, R., Duke, N., & Jones, K. (2000). Two-year-olds name artifacts by their functions. *Child Development, 71*(5), 1271-1288.

Landau, B., Smith, L. B., & Jones, S. S. (1998). Object shape, object function, and object name. *Journal of Memory and Language, 38*, 1-27.

Matan, A., & Carey, S. (2001). Developmental changes within the core of artifact concepts. *Cognition, 78*, 1-26.

Rakison, D. H., & Cohen, L. B. (1999). Infants' use of functional parts in basic-like categorization. *Developmental Science, 2*, 423-431.

Role of intention and causation in artifact concepts

Bloom, P. (1996). Intention, history, and artifact concepts. *Cognition, 60*, 1-29.

Bloom, P. (1998). Theories of artifact categorization. *Cognition, 66*, 87-93.

Chaigneau, S.E., Barsalou, L.W., & Sloman, S. (in press). Assessing the causal structure of function. *Journal of Experimental Psychology: General*.

Chaigneau, S.E., Barsalou, L.W. (in press). The role of function in categorization. *Theoria et Historia Scientiarum*.

Gelman, S. A., & Bloom, P. (2000). Young children are sensitive to how an object was created when deciding what to name it. *Cognition, 76*, 91-103.

Gutheil, G., Bloom, P., Valderrama, N., & Freedman, R. (2004). The role of historical intuitions in children's and adult's naming of artifacts. *Cognition, 91*, 23-42.

Role of essences in concepts

Ahn, W., Kalish, C., Gelman, S. A., Medin, D. L., Luhmann, C., Atran, S., Coley, J. D., Shafto, P. (2001). Why essences are essential in the psychology of concepts. *Cognition, 82*, 59 - 69.

Gelman, S.A., Coley, J., & Gottfried, G. (1994). Essentialist beliefs in children: the acquisition of concepts and theories. In L. Hirschfeld & S. Gelman (Eds.), *Mapping the mind: Domain specificity in cognition and culture* (pp. 341-365). New York: Cambridge University Press.

Simons, D.J. & Keil, F.C. (1995). An abstract to concrete shift in the development of biological thought: the insides story. *Cognition, 56*, 129-163.

Oct. 14 **Category learning in adults**

Exemplar models

Heit, E. (1994). Models of the effects of prior knowledge on category learning.

Journal of Experimental Psychology: Learning, Memory, and Cognition, 20, 1264-1282.

Heit, E., & Barsalou, L.W. (1996). The instantiation principle in natural categories. *Memory*, 4, 413-451.

Hintzman, D.L. (1986). "Schema abstraction" in a multiple-trace memory model. *Psychological Review*, 93, 411-428.

Lamberts, K. (1994). Flexible tuning of similarity in exemplar-based categorization. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 20, 1003-1021.

Lamberts, K. (1998). The time course of categorization. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 24, 695-711.

Medin, D.L., & Schaffer, M. (1978). A context theory of classification learning. *Psychological Review*, 85, 207-238.

Nosofsky, R.M. (1984). Choice, similarity, and the context theory of classification. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 10, 104-114.

Nosofsky, R.M. (1988). Similarity, frequency, and category representations. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 14, 54-65.

Nosofsky, R.M., & Palmeri, T.J. (1997). An exemplar-based random walk model of speeded classification. *Psychological Review*, 104, 266-300.

Storms, G., De Boeck, P., & Ruts, W. (2000). Prototype and exemplar based information in natural language categories. *Journal of Memory and Language*, 42, 51-73.

Prototypes

Barsalou, L.W. (1990). On the indistinguishability of exemplar memory and abstraction in category representation. In T.K. Srull & R.S. Wyer (Eds.), *Advances in social cognition, Volume III: Content and process specificity in the effects of prior experiences* (pp. 61-88) Hillsdale, NJ: Lawrence Erlbaum Associates.

Rosch, E., & Mervis, C.B. (1975). Family resemblances: Studies in the internal structure of categories. *Cognitive Psychology*, 7, 573-605.

Ross, B.H., Perkins, S.J., & Tenpenny, P.L. (1990). Reminding-based category learning. *Cognitive Psychology*, 22, 460-492.

Smith, J.D., & Minda, J.P. (1998). Prototypes in the mist: The early epochs of category learning. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 24, 1411-1436.

Smith, J. D. (2002). Exemplar theory's predicted typicality gradient can be tested and disconfirmed. *Psychological Science*, 13, 437-442.

Smith, J. D., & Minda, J. P. (2002). Distinguishing prototype-based and exemplar-based processes in category learning. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 28, 800-811.

Rules

Allen, S.W., & Brooks, L.R. (1991). Specializing the operation of an explicit rule. *Journal of Experimental Psychology: General*, *120*, 3-19.

Ashby, F.G. & Ell, S.W. (2001). The neurobiology of human category learning. *Trends in Cognitive Sciences*, *5*, 204-210

Ashby, F.G. & Maddox, W.T. (1992). Complex decision rules in categorization: Contrasting novice and experienced performance. *Journal of Experimental Psychology: Human Perception and Performance*, *18*, 50-71.

Nosofsky, R.M., Palmeri, T.J., & McKinley, S.C. (1994). Rule-plus-exception model of classification learning. *Psychological Review*, *101*, 53-79.

Smith, E.E., Patalano, A.L., & Jonides, J. (1998). Alternative strategies for categorization. *Cognition*, *65*, 167-196.

Connectionism

Kruschke, J.K. (1992). ALCOVE: An exemplar-based connectionist model of category learning. *Psychological Review*, *99*, 22-44.

[Kruschke, J. K.](#) (1996). Base rates in category learning. *Journal of Experimental Psychology: Learning, Memory and Cognition*, *22*, 3-26.

Rogers, T.T., Lambon Ralph, M.A., Garrard, P., BOZEAT, S., McClelland, J.L., Hodges, J.R., Patterson, K. The structure and deterioration of semantic memory: A neuropsychological and computational investigation: *Psychological Review*, *111*, 205-235

Background Knowledge

Kaplan, A. S., & Murphy, G. L. (2000). Category learning with minimal prior knowledge. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *26*, 829-846.

Murphy, G.L. (2000). Explanatory concepts. In F.C. Keil & R.A. Wilson (Eds.), *Explanation and cognition* (pp. 361-392). Cambridge, MA: MIT Press.

Murphy, G. L., & Kaplan, A. S. (2000). Feature distribution and background knowledge in category learning. *Quarterly Journal of Experimental Psychology A: Human Experimental Psychology*, *53A*, 962-982.

Rehder, B. & Hastie, R. (2001). Causal knowledge and categories: The effects of causal beliefs on categorization, induction, and similarity. *Journal of Experimental Psychology: General*, *130*, 323-360.

Wisniewski, E. J. (1995). Prior knowledge and functionally relevant features in concept learning. *Journal of Experimental Psychology: Learning, Memory, & Cognition*, *21*, 449-468.

Wisniewski, E. J; Medin, D. L. On the interaction of theory and data in concept learning. *Cognitive Science*, *18*, 221-281.

Kalish, C.W. & Gelman, S.A. (1992). On wooden pillows: Multiple classification and children's category-based inductions. *Child Development*, *63*, 1536-1557.

Davidson, N.S. & Gelman, S.A. (1990). Inductions from novel categories: The of language and conceptual structure. *Cognitive Development*, *5*, 151-176.

Gutheil, G., Vera, A., & Keil, F. C. (1998). Do houseflies think? Patterns of induction and biological beliefs in development. *Cognition*, *66*, 33-49.

Adults

Coley, J., Shafto, P., Stepanova, O., & Baraff, E. (in press). Knowledge and Category-Based Induction. In *Categorization inside and outside the laboratory*. Washington, DC: American Psychological Association.

Heit, E., & Rubinstein, J. (1994). Similarity and property effects in inductive reasoning. *Journal of Experimental Psychology: Learning, Memory, & Cognition*, *20*, 411-422.

McDonald, J., Samuels, M., & Rispoli, J. (1996). A hypothesis-assessment model of categorical argument strength. *Cognition*, *59*, 199-217.

Medin, D.L., Coley, J.D., Storms, G. & Hayes, B. (In Press). A Relevance Theory of induction. *Psychonomic Bulletin and Review*.

Proffitt, J.B., Coley, J.D. & Medin, D.L. (2000). Expertise and category-based induction. *Journal of Experimental Psychology: Learning, Memory & Cognition*, *26*, 811-828.

Osherson, D.N., Smith, E.E., Wilkie, O., Lopez, A. & Shafir, E. (1990). Category-based induction. *Psychological Review*, *97*, 185-200.

Rehder, B. & Hastie, R. (2001). Causal knowledge and categories: The effects of causal beliefs on categorization, induction, and similarity. *Journal of Experimental Psychology: General*, *130*, 323-360.

Rehder, B., & Hastie, R. (2004). Category coherence and category-based property induction. *Cognition*, *91*, 113-153.

Ross, N., Medin, D.L., Coley, J.D. & Atran, S. (2003). Cultural and experiential differences in the development of biological induction. *Cognitive Development*, *18*, 25-47.

Shafto, P. & Coley, J.D. (2003). Development of categorization and reasoning in the natural world: Novices to experts, naïve similarity to ecological knowledge. *Journal of Experimental Psychology: Learning, Memory & Cognition*, *29*, 641-649.

Sloman, S. A. (1993). Feature-based induction. *Cognitive Psychology*, *25*, 231-280.

Oct 28

Function / Intention

Physical structure vs. function in categorization

Cree, G. S., & McRae, K. (2003). Analyzing the factors underlying the structure and

computation of the meaning of chipmunk, cherry, chisel, cheese, and cello (and many other such concrete nouns). *Journal of Experimental Psychology: General*, *132*, 163-201.

Kemler-Nelson, D. G. (1995). Principle-based inferences in young children's categorization: Revisiting the impact of function on the naming of artifacts. *Cognitive Development*, *10*, 347-380.

Kemler Nelson, D. G. (1999). Attention to functional properties in toddlers' naming and problem-solving. *Cognitive Development*, *14*, 77-100.

Kemler-Nelson, D. G., Russell, R., Duke, N., & Jones, K. (2000). Two-year-olds name artifacts by their functions. *Child Development*, *71*(5), 1271-1288.

Landau, B., Smith, L. B., & Jones, S. S. (1998). Object shape, object function, and object name. *Journal of Memory and Language*, *38*, 1-27.

Malt, B., & Johnson, E. C. (1998). Artifact category membership and the intentional-Historical theory. *Cognition*, *66*, 79-85.

Rakison, D. H., & Cohen, L. B. (1999). Infants' use of functional parts in basic-like categorization. *Developmental Science*, *2*, 423-431.

Affordances vs. intention

Barsalou, L.W., Sloman, S.A., & Chaigneau, S.E. (in press). The HIPE theory of function. In L. Carlson & E. van der Zee (Eds.), *Representing functional features for language and space: Insights from perception, categorization and development*. Oxford: Oxford University Press.

Bloom, P. (1996). Intention, history, and artifact concepts. *Cognition*, *60*, 1-29.

Bloom, P. (1998). Theories of artifact categorization. *Cognition*, *66*, 87-93.

Chaigneau, S.E., Barsalou, L.W., & Sloman, S. (in press). Assessing the causal structure of function. *Journal of Experimental Psychology: General*.

Chaigneau, S.E., Barsalou, L.W. (in press). The role of function in categorization. *Theoria et Historia Scientiarum*.

Gelman, S. A., & Bloom, P. (2000). Young children are sensitive to how an object was created when deciding what to name it. *Cognition*, *76*, 91-103.

Gutheil, G., Bloom, P., Valderrama, N., & Freedman, R. (2004). The role of historical intuitions in children's and adult's naming of artifacts. *Cognition*, *91*, 23-42.

Matan, A., & Carey, S. (2001). Developmental changes within the core of artifact concepts. *Cognition*, *78*, 1-26.

Goals and roles

Barsalou, L.W. (1991). Deriving categories to achieve goals. In G.H. Bower (Ed.), *The psychology of learning and motivation: Advances in research and theory* (Vol. 27, pp. 1-64). San Diego, CA: Academic Press.

Ross, B.H., & Murphy, G.L. (1999). Food for thought: Cross-classification and category organization in a complex real-world domain. *Cognitive Psychology*, 38, 495-553.

Vallée-Tourangeau, F., Anthony, S.H., & Austin, N.G. (1998). Strategies for generating multiple instances of common and ad hoc categories. *Memory*, 6, 555-592.

Nov. 2 **Abstract categories and metaphor (Tuesday 6-9 PM)**

Concrete vs. abstract concepts

Barsalou, L.W., & Wiemer-Hastings, K. (in press). Situating abstract concepts. In D. Pecher and R. Zwaan (Eds.), *Grounding cognition: The role of perception and action in memory, language, and thought*. New York: Cambridge University Press.

Paivio, A. (1986). *Mental representations: A dual coding approach*. New York: Oxford University Press.

Wiemer-Hastings, K., Krug, J., & Xu, X. (2001). Imagery, context availability, contextual constraint, and abstractness. *Proceedings of the 23rd Annual Conference of the Cognitive Science Society*, 1134-1139. Mahwah, NJ: Erlbaum.

Context availability in abstract concepts

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Nov. 11

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Nov. 16 **Social concepts (Tuesday 6-9 PM)**

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Nov. 25 **THANKSGIVING BREAK**

Dec. 2 **Categorization across cultures**

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