

# Pieces of Mind

**Kevin Lande**

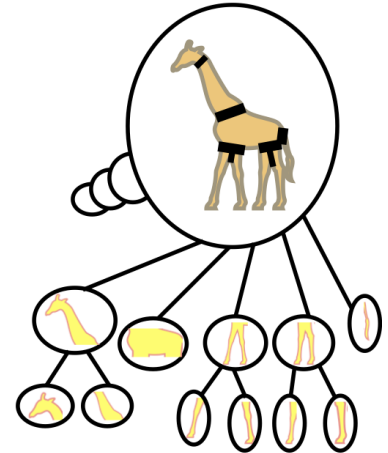
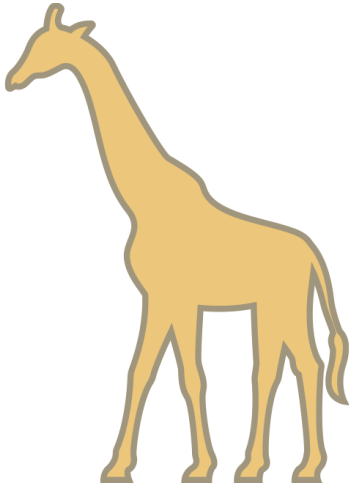
*E-mail:* lande@yorku.ca

*Office Hours:* Tue 11–12 @ RS 443 (& by appt.)

**PHIL 6370 / Fall 2019**

*Website:* <http://bit.ly/phil6370-f19>

*Meetings:* Tue 1–4 @ RS 414F



## 1 Mental Structures

The state you are in when you see a yellow frisbee has at least two parts: a state of seeing the frisbee's yellowness and a state of seeing the frisbee's circularity. The state you are in when you have the thought that dumplings are delicious has at least two parts: a state that represents dumplings and a state that represents being delicious. Descriptions like these of the part-whole structures of mental states are central to how contemporary cognitive science makes sense of our mental lives. But what does it even mean to say that one mental state is a "part" of another? Do mental states really have other mental states as parts? And, if so, how are mental states actually structured? Are there similar kinds of structure in perception, thought, and even language? In addressing these questions we will discuss foundational issues concerning the nature of mental representation, computationalism about the mind, syntax and semantics, and the Language of Thought hypothesis. We will focus especially on visual perception, with an eye toward connecting philosophical questions to empirical work in psychology, neuroscience, and computer vision.

## 2 Basic Info

**Course Website** <http://bit.ly/phil6370-f19> OR <https://moodle.yorku.ca/moodle/course/view.php?id=161130>

**Course Materials** All texts will be available on the course website. There will be roughly 30–70 pages of assigned reading per week.

### Graded Coursework

20% Weekly participation + 8 written comments (250-500 words, due Mondays at 5pm)

35% First submission of term paper (3,500–4,000 words, due Nov 15) + peer review (500–1,000 words, due Nov 27)

45% Revision and resubmission of term paper (3,500–5,000 words) + cover letter (500–750 words), both due Dec 20

### 3 Coursework

**Weekly participation + 8 written comments [20%]** Philosophy is all about conversation. We struggle together—both in person and through our writing—to express, communicate, and understand each other’s points of confusion and clarity. Contributing to conversation in this seminar doesn’t require being totally clear on what you mean to say or even being invested in the topic; it’s through talking, communicating, and listening that we *figure out* what idea or question is on our minds or what about the topic excites us.

To help facilitate and scaffold conversations in seminar, I ask that:

- On eight weeks of your choice, by 5pm on Mondays, you will submit written comments on the next day’s readings (250-500 words). These comments can include: exposition on any or all of the readings or some argument in the readings; working out a question or point of confusion about the readings; an initial response to some argument in the readings; a discussion of some current topic that relates to that week’s readings; etc.

I hope that, having written up these comments, you will feel comfortable vocalizing some of them, in one way or another, during our meetings.

- When a scientific paper is assigned (marked by “Ψ” on the schedule), one or two students will prepare ahead of time to write a handout and spend 10–15 minutes explaining the experimental work: what’s the question, what’s the hypothesis, what are the experiments, why are the experiments supposed to address the question/hypothesis, what are the results, and what are any questions or thoughts you had? Digging into the larger literature and suggested further readings is encouraged (but not at all required).

This is a philosophy of science course. It’s not easy reading scientific papers, and it’s tempting (and often expedient) to just read the intro and general discussion. I want everyone to have spent some time getting familiar with and thinking deeply about the experimental methods and procedures. The most important theoretical commitments show up not in what scientists *say* about their experiments but in what their experiments *do*.

**First submission + peer review [35%]** Write a 3,500–4,000 word paper on a topic that is either covered in or related to the seminar. Please speak with me ahead of time about what topic you plan to write about. This should have the quality of a complete, polished paper—not a draft. The goal is to work toward contributing a new question, point of clarification, or application of a framework to the literature.

Each of you will then be assigned to write a 500–1,000 word review of one of your colleagues’ papers. This means preparing a separate document commenting on the assigned paper and suggesting revisions. I will prepare comments in the same format. “Conversing” through peer review is essential to the health of the discipline and our own understanding of the topic. Submitting the peer review is necessary to receive credit for your submission.

**Revision and resubmission of term paper + cover letter [45%]** Submit a revised version of your first submission (3,500–5,000 words). The revision should address the comments and suggestions that you received from me and your peer reviewer. This may involve substantially rewriting your first submission.

In addition to the revised paper, you must submit a separate 500–750 word cover letter that explains what revisions you made, how they addressed the comments you received, and for any comments that you did not address (perhaps because you received conflicting comments, or because you do not think the comments were productive) justifying why you did not address them. This sort of “backstage” conversation is standard to peer review, and it is an opportunity for you to reflect (and me to give feedback) on your revision process. Submitting this cover letter is necessary to receive credit for your resubmission. You will be graded both on your paper and on the evidence that you reasonably took my comments and the comments of your peer reviewer into account in your revision.

### 4 Academic Integrity

Please respect the standards of academic integrity and be respectful to yourself, your peers, and your discipline. I take all forms of academic dishonesty, including plagiarism, extremely seriously. York’s policy regarding academic integrity can be found at [gradstudies.yorku.ca/current-students/regulations/academic-honesty/](http://gradstudies.yorku.ca/current-students/regulations/academic-honesty/).

### 5 Accessibility

I am committed to an accessible classroom. Please contact me and Student Accessibility Services ([accessibility.students.yorku.ca](mailto:accessibility.students.yorku.ca)) as soon as possible, and we will all work together to find a fair accommodation.

## 6 Tentative Schedule

("Ψ" = experimental work; "FR" = further reading)

### *Part I: Mental Structures*

#### **Week 1 (9/10) — Mental Representation**

- Zenon Pylyshyn, *Computation and Cognition* (1984): 1–28
- FURTHER READING: Barbara Von Eckardt, "The Representational Theory of Mind" (2012): 29–49

#### **Week 2 (9/17) — Syntax and the Language of Thought Hypothesis**

- Jerry Fodor, "Why There Still Has to Be a Language of Thought" (1987): 135–154
- Ray Jackendoff, *Consciousness and the Computational Mind* (1987): 37–44
- W.V. Quine, *Philosophy of Logic* (1970): 15–17
- Noam Chomsky, *Syntactic Structures* (1957/2002): 11–17
- Hilda Koopman, Dominique Sportiche, Edward Stabler, *An Introduction to Syntactic Analysis and Theory* (2014): 37–45; FR (Ψ): Ch. 2, <https://linguistics.ucla.edu/people/stabler/isat.pdf>

#### **Week 3 (9/24) — Representational Diversity**

- Elisabeth Camp, "Thinking With Maps" (2007): 145–182
- Robert Cummins, "Representational Specialization: The Synthetic A Priori Revisited" (2010): 194–209

### *Part II: Perception*

#### **Week 4 (10/1) — Perception: A Blooming, Buzzing Confusion?**

- Elisabeth Pacherie, "Levels of Perceptual Content" (2000): 237–254
- (Ψ) Stephen Palmer, "Hierarchical Structure in Perceptual Representation" (1977): 441–474
- (Ψ) Anne Treisman, "Features and Objects in Visual Processing" (1986): 106–115
- FR: Fred Dretske, *Knowledge and the Flow of Information* (1981): Ch. 6
- FR (Ψ): John Duncan, "Selective Attention and the Organization of Visual Information" (1984): 501–517
- FR (Ψ): Philip Kellman, Patrick Garrigan, and Gennady Erlikhman, "Challenges in Understanding Visual Shape Perception and Representation: Bridging Subsymbolic and Symbolic Coding" (2013): 249–274
- FR (Ψ): Deborah Kemler Nelson, "Processing Integral Dimensions: The Whole View" (1993): 1105–1113
- FR (Ψ): Martin Arguin and Daniel Saumier, "Conjunction and Linear Non-Separability Effects in Visual Shape Encoding" (2000): 3099–3115

#### **Week 5 (10/8) — Parts, Parts, Parts!**

- Jerry Fodor, "The Revenge of the Given" (2007): 105–116
- (Ψ) Donald Hoffman and Whitman Richards, "Parts of Recognition" (1984): 65–88
- (Ψ) Yaoda Xu and Manish Singh, "Early Computation of Part Structure: Evidence From Visual Search" (2002): 1039–1054
- FR: Katalin Balog, "Jerry Fodor on Non-Conceptual Content" (2009): 311–320
- FR: Tyler Burge, "Iconic Representation: Maps, Pictures, and Perception" (2018): 79–100
- FR (Ψ): Song Chun Zhu and David Mumford, "A Stochastic Grammar of Images" (2006): 259–362

#### **Reading Week (10/15) — No class**

#### **Week 6 (10/22) — Perceptual Structures**

- Kevin Lande, "Perceptual Structures" (manuscript)
- (Ψ) Elena Gheorghiu and Frederick A.A. Kingdom, "The Spatial Feature Underlying the Shape-Frequency and Shape-Amplitude After-Effects" (2007): 834–844

#### **Week 7 (10/27) — No Class**

**Part III: Thoughts and Concepts****Week 8 (11/5) — Animal Thoughts**

- ( $\Psi$ ) Dorothy Cheney and Robert Seyfarth, *Baboon Metaphysics* (2007): 248—272
- Elisabeth Camp, “A Language of Baboon Thought?” (2007): 108-127
- FR ( $\Psi$ ): Kitchen, Cheney, Seyfarth, “Male chacma baboons (*Papio hamadryas ursinus*) discriminate loud call contests between rivals of different relative ranks” (2005): 1–6

**Week 9 (11/12) — Kids Think the Darndest Syllogisms**

- Michael Rescorla, “Chrysippus’ Dog” (2009): 52–71
- ( $\Psi$ ) Shilpa Mody and Susan Carey, “The Emergence of Reasoning by the Disjunctive Syllogism in Early Childhood” (2016): 40–48

**Nov 15: First submission due****Week 10 (11/19) — Implicit Attitudes**

- Eric Mandelbaum, “Attitude, Inference, Association: On the Propositional Structure of Implicit Bias” (2014): 629–658
- Josefa Toribio, “Implicit Bias: From Social Structure to Representational Format” (2018): 41–60

**Week 11 (11/26) — Propositional Structure**

- Tyler Burge, “Steps toward Origins of Propositional Thought” (2010): 39–67
- FR: Tyler Burge, “The Upper Border of The Perceptual: Perception and Propositional Attitudes” (2010): 537–544
- FR: Mariela Aguilera, “Why the Content of Animal Thought Cannot be Propositional” (2018): 183–207

**Nov 27: Peer review due****Part IV: Braaaaaiiiiinsssss****Week 12 (12/03) — “Neural” Networks and Neural Networks**

- Jerry Fodor and Zenon Pylyshyn, “Connectionism and Cognitive Architecture: A Critical Analysis” (1988): 3–71
- ( $\Psi$ ) Siavash Vaziri, Anitha Pasupathy, Scott Brincat, and Charles Connor, “Structural Representation of Object Shape in the Brain” (2009): 182–195
- FR ( $\Psi$ ): Nikolaus Kriegeskorte, “Deep Neural Networks: A New Framework for Modeling Biological Vision and Brain Information Processing” (2015): 417–446

**Exam period make-up (TBD) — Student Presentations****Dec 20: Final submission + cover letter due**