The Cognitive Science of Ignorance syllabus
Winter 2023

Class: Fridays 15:40-17:20, QS C503
Credits: 2 credits
Eligibility: Graduate students in Cognitive Science and Philosophy
Instructor: Jonathan F. Kominsky (KominskyJ@ceu.edu)
Office hours: By appointment

Description: This course provides an integrative Cognitive Science perspective of the nature of ignorance, connecting long-standing debates in epistemology and recent empirical work in psychology to understand what it means to be ignorant, when people are and are not aware of their own ignorance, and why ignorance is sometimes valuable information unto itself. The course is intended for graduate students in Philosophy and Cognitive Science, as well as advanced undergraduate students. Materials will include both modern and ancient philosophical perspectives on knowledge, learning, and the distribution of knowledge across individuals; and recent empirical work that uses data to examine what people think they know, what they actually know, and what they know they can learn.

Learning outcomes: By the end of the course, you should be able to

- Discuss existing perspectives on ignorance from Philosophy and Psychology
- Evaluate the role of ignorance in teaching, learning, and everyday life
- Identify and create new research questions about ignorance

Assignments: Readings listed under each class should be completed before class. Each article will be summarized by one student each week (except for Week 1, I'll present those). The presentation does not need to involve slides. Exact number of presentations per student over the semester will depend on class size. Presentations are evaluated pass/fail, and completing all your assigned presentations accounts for 40% of your final grade.

Final project: An empirical research proposal OR a theory paper exploring an open question about ignorance. The empirical research proposal should be an APA style introduction and methods section with a discussion of the interpretation of potential patterns of results. The theory paper should have a review of both the empirical and theoretical literature related to the focal question and a theoretical proposal.
Topic proposal (one page; due 17 February): 20% of final grade.
Final version (due 14 April): 40% of final grade.

Attendance and illness: Absences with advance notice can be excused, though you if you were assigned to present a reading you may have to do make-up work. If you don't feel well, don't come to class in person! If you feel like you would be able to participate remotely, please email me before class and I will send you a Zoom link.

1. Week 1 (13 January): Ignorance, knowledge, and belief (part 1)
    a. https://plato.stanford.edu/archives/fall2017/entries/knowledge-analysis/ (review for most)
    b. Le Morvan, P. (2011). Knowledge, ignorance, and true belief. *Theoria, 77*, 32-41.
    c. Nagel, J. (2017). Factive and nonfactive mental state attribution. *Mind & Language*, *32*(5), 525-544. https://doi.org/10.1111/mila.12157

2. Week 2 (20 January): Ignorance, knowledge, and belief (part 2)
    a. Phillips, J., Buckwalter, W., Cushman, F., Friedman, O., Martin, A., Turri, J., Santos, L., & Knobe, J. (2020). Knowledge before belief. *Behavioral and Brain Sciences*, *44*, e140. https://doi.org/10.1017/S0140525X20000618
    b. Everyone reads the main article + the author's final response.
    c. Each person selects and reads two commentaries. Try not to overlap.
    d. Optional but encouraged: Attend Jonathan Phillips' talk on 18 Jan!

3. Week 3 (27 January): Attitudes toward ignorance
    a. http://www2.hawaii.edu/~freeman/courses/phil100/04.%20Apology.pdf (up to page 5)
    b. Haas, J., & Vogt, K. M. (2022). Ignorance and Investigation. In M. Gross & L. McGoey (Eds.), *Routledge International Handbook of Ignorance Studies, 2nd edition*. Routledge.
    c. Davoodi, T., & Lombrozo, T. (2022). Varieties of Ignorance: Mystery and the Unknown in Science and Religion. *Cognitive Science*, *46*(4).

4. Week 4 (3 February): Divisions of knowledge
    a. Landrum, A. R., & Mills, C. M. (2015). Developing expectations regarding the boundaries of expertise. *Cognition*, *134*, 215-231. https://doi.org/10.1016/j.cognition.2014.10.013
    b. Keil, F. C., Lockhart, K. L., & Schlegel, E. (2010). A bump on a bump? Emerging intuitions concerning the relative difficulty of the sciences. *J Exp Psychol Gen*, *139*(1), 1-15. https://doi.org/10.1037/a0018319
    c. Bechtel & Abrahamson (2008). From reduction back to higher levels. *Proceedings of the Annual Meeting of the Cognitive Science Society.*

5. Week 5 (10 February): Explanation and abstraction
    a. Woods, J., & Rosales, A. (2010). Virtuous Distortion: Abstraction and Idealization in Model-Based Science. In L. Magnani, W. Carnielli, & C. Pizzi (Eds.), *Model-based Reasoning in Science and Technology: Abduction, Logic, and Computational Discovery* (Vol. 314). Springer-Verlag New York Inc.
    b. Levy, A. (2011). Makes a Difference. *Biology & Philosophy*, *26*(3), 459-467. https://doi.org/10.1007/s10539-010-9234-2

6. Week 6 (17 February): Evaluating ignorance in ourselves
    a. Dunning, D. (2011). The Dunning-Kruger Effect: On Being Ignorant of Ones Own Ignorance. *Advances in Experimental Social Psychology*, *44*, 247.
    b. Alter, A. L., Oppenheimer, D. M., & Zemla, J. C. (2010). Missing the trees for the forest: a construal level account of the illusion of explanatory depth. *Journal of Personality and Social Psychology*, *99*(3), 436-451. https://doi.org/10.1037/a0020218
    c. Lawson, R. (2006). The science of cycology: failures to understand how everyday objects work. *Memory and Cognition*, *34*(8), 1667-1675.
    d. For this class: Topic idea for final project.

7. Week 7 (24 February): Using ignorance to learn
    a. Kominsky, J. F., Zamm, A. P., & Keil, F. C. (2018). Knowing When Help Is Needed: A Developing Sense of Causal Complexity. *Cognitive Science*, *42*(2), 491-523. https://doi.org/10.1111/cogs.12509
    b. Keil, F. C., & Kominsky, J. F. (2013). Missing Links in Middle School: Developing Use of Disciplinary Relatedness in Evaluating Internet Search Results. *PLoS One*, *8*(6), e67777. https://doi.org/10.1371/journal.pone.0067777
    c. Peels, R. & Pritchard, D. (2021). Educating for Ignorance. *Synesthese, 198*, 7949-7963. https://doi.org/10.1007/s11229-020-02544-z

8. Week 8 (3 March): Evaluating ignorance and expertise in others
    a. Birch, S. A. J., Brosseau-Liard, P. E., Haddock, T., & Ghrear, S. E. (2017). A 'curse of knowledge' in the absence of knowledge? People misattribute fluency when judging how common knowledge is among their peers. *Cognition*, *166*, 447-458. https://doi.org/10.1016/j.cognition.2017.04.015
    b. The Dr. Fox effect (https://youtu.be/RcxW6nrWwtc)
    c. Kominsky, J. F., Langthorne, P., & Keil, F. C. (2016). The better part of not knowing: Virtuous ignorance. *Developmental Psychology*, *52*(1), 31-45. https://doi.org/10.1037/dev0000065

9. Week 9 (10 March): Teaching and ignorance
    a. Shafto, P., Goodman, N. D., & Griffiths, T. L. (2014). A rational account of pedagogical reasoning: Teaching by, and learning from, examples. *Cognitive Psychology, 71*, 55-89.
    b. O'Reilly, T., Wang, Z., & Sabatini, J. (2019). How much knowledge is too little? When a lack of knowledge becomes a barrier to comprehension. *Psychological science*, *30*(9), 1344-1351. https://journals.sagepub.com/doi/pdf/10.1177/0956797619862276

10. Week 10 (17 March): Morality and ignorance
    a. Kirfel, L., & Lagnado, D. (2021). Causal judgments about atypical actions are influenced by agents' epistemic states. *Cognition*, *212*, 104721.
    b. Hart & Honoré "Causation in the Law" Ch. 9 to the end of Section I (pp. 254-275)

11. Week 11 (24 March): Ignorance and politics
    a. Smith, L. A., & Stern, N. (2011). Uncertainty in science and its role in climate policy. *Phil. Trans. R. Soc. A*, 369, 4818-4841.
    b. Somin, I. (2022). Rational Ignorance. In M. Gross & L. McGoey (Eds.), *Routledge International Handbook of Ignorance Studies, 2nd edition*. Routledge.

12. Week 12 (1 April): What don't we know about ignorance? (Wildcard week)
    a. Readings TBD by students.