

# Thursday Warm-Up (INTD262)

Dr. Jordan Hanson - Whittier College Dept. of Physics and Astronomy

October 24, 2024

## 1 Chapter 5 of *The Scientific Attitude*

1. Define the term *confirmation bias*.
2. **Recall the story of cold fusion** in Chapter 5. (a) List three facets of the peer review process that went wrong in this episode.
3. How long, from start to finish, did it take for the scientific community to sort out the errors in the cold fusion research?
4. Consider the passages in chapter 5 about scientists withholding raw data when publishing.
  - (a) Make a determination about the logic of the following statement:

Fraudulent results are almost always irreproducible. Therefore, irreproducible studies are almost always indicate fraud.
  - (b) What fraction of psychological studies were found to be irreproducible?<sup>1</sup>
5. Did the conclusion drawn from the paper in the previous question pan out? Why or why not?
6. If you set out to reproduce the results of an experiment, are you guaranteed to reproduce it if you follow the methods of the study exactly?

---

<sup>1</sup>Ian Sample, "Study Delivers Bleak Verdict on Validity of Psychology Experiment Results," *Guardian*, Aug. 27th, 2015.