

Philosophy 3330 Spring 2021  
Reading questions #6  
Due Tue, March 2

Read Chapter 4 of James Ladyman's *Understanding Philosophy of Science* and then answer the following questions. Your answers should be uploaded in Blackboard.

1) Think about scientific change over time. One natural thought is that scientists have some data (observations) and have some theories about the world. Over time they gather more data and/or think better or more clearly about an issue and then improve their theories. So scientific knowledge steadily accumulates over time. Thomas Kuhn thinks that this basic picture is mistaken. Why?

2) Kuhn believes that scientists operate within a disciplinary matrix or a paradigm that includes not just theories they believe but whole methodologies for doing science such as beliefs about what counts as evidence or a good explanation. This means that something might count as good science from within one paradigm but not from within another. Possible examples might include Ptolemaic astronomy vs. Copernican astronomy, creationist biology vs. evolutionary biology, or maybe even statistical evidence-based medicine vs. a mechanistic theory of medicine. If individuals within one paradigm don't recognize what people in the other paradigm are doing as good science, is there any way to argue about which paradigm is better? Could it ever be rational to give up one paradigm and move to another?

3) After reading the chapter, try to come up with a question that you want answered or a topic that you would like to be discussed further. This could be something that the chapter forced you think about or it could be something that you thought was particularly confusing in the chapter.