

**Study questions for [GS] Chapter 7: Lakatos, Laudan, Feyerabend.**

1. What is a key difference between a research program and a paradigm?
2. How does Lakatos characterized Kuhn's presentation of scientific change?
3. Describe the two main components of a research program.
4. What are Lakatos's two rules that govern change within a research program?
5. Is there a third rule that governs how change occurs between research programs? Why does Godfrey-Smith think this is a problem for Lakatos?
6. What are some ways that a research tradition is more flexible than a research program?
7. According to Laudan, what is the difference between accepting a theory and pursuing a theory?
8. According to Laudan, when is it rational to pursue a research tradition? When is it rational to accept a theory?
9. When might it be a mistake for everyone to work on the same research program/tradition?
10. What is "epistemological anarchism"?
11. Unlike most philosophers of science who found disorder in Kuhn's view of science, what did Feyerabend find?
12. According to Feyerabend, in what sense do paradigms never succeed in exerting the kind of control Kuhn described?
13. According to Feyerabend, in what sense is science often a matter of challenging rather than following the lessons of observation?
14. What is Feyerabend's Principle of Tenacity? What is his Principle of Proliferation?
15. What is John Stuart Mill's notion of the "marketplace of ideas"? How does this relate to Feyerabend?

**Study questions for [GS] Chapter 8: Sociology of Science: Merton.**

1. What are the four norms of science, according to Mertonian sociology of science?
2. How does the reward system function in science?
3. Describe some "deviant" behaviors that may result when the reward system misfires?
4. How does the "newer" sociology of science differ from the "older" Mertonian view?
5. What is the symmetry principle of the Strong Program?
6. According to the Strong Program, how is the belief that genes are made of DNA similar to the belief that drought is due to the ill will of a local deity?
7. In what sense is the Strong Program relativist?
8. According to Shapin and Schaffer, how did Boyles' approach to scientific research reflect his views on politics and society?
9. What is a "form of life"? What is a "language game"?
10. According to Latour and Woolgar, what does it mean to turn something into a fact?

**Study questions for [S], Chaps 3-4: Sociology of Science: Merton.**

11. What is the key to Merton's theory of the social structure of science?
12. What is the difference between "moral" norms and "cognitive" norms?
13. According to Sismondo, what are three common criticisms of the Mertonian picture of the ethos of science?
14. How is the case of Velikovsky an example where moral norms are subservient to cognitive norms?
15. What is Wittgenstein's problem of rule following? Why is it a criticism of the Mertonian approach?
16. What is one way norms can be used as resources?
17. How could you argue that citation analysis is a poor tool for studying communication and influence?
18. What are some ways that prestige contributes to productivity?
19. What is the Matthew Effect?
20. What is the pipeline metaphor that describes the problem of women in science and engineering?
21. What are some problems that are particularly difficult for women at the beginnings of careers in science and engineering?

**Study questions for [S], Chaps 5-6: Sociology of Science: Strong Programme.**

1. What are the four tenets of the Strong Programme in the sociology of scientific knowledge?
2. What is Bloor's symmetry thesis?
3. What is the concept of finitism?
4. What is the distinction between externalist and internalist explanations of scientific and technological knowledge?
5. What is "social realism"? Why should STS make social reality and natural reality symmetrical, or justify their lack of symmetry?
6. According to Sismondo, does the strong programme reject truth, rationality, and the reality of the material world? Why or why not?
7. What are three important assumptions (or reminders) that social constructivism provides?
8. What is "social reality"? Give an example of a real social object.
9. In what sense is nature "not to be found in the laboratory"?
10. What are ways in which technology and science shape environments?
11. In what sense are scientific theories constructed with reference to data, but are not implied by that data?
12. What is "heterogeneous engineering"? What is "heterogeneous construction"?
13. What do nominalists claim? How is nominalism one way to cash out the construction metaphor?
14. What is neo-Kantian constructivism?

**Study questions for [S] Chap 8: Actor-Network-Theory**

1. What is technoscience?
2. What characterizes the actors of ANT?
3. In ANT, are engineering and sociology separable?
4. What factors are involved in the erection of a stable network and a successful piece of technoscience?
5. What do actors do, according to ANT?
6. What does it mean to say that science and technology work by translating material actions and forces from one form into another?
7. What is the notion of an immutable mobile?
8. What is the notion of a black box?
9. In what sense is ANT based on a relational materialist ontology?
10. What does it mean to say that while the Strong Programme is symmetric in its analysis of the relations among science, technology and society, ANT is "supersymmetric"?
11. Why don't cultures and cultural networks fit neatly into the network framework offered by ANT?
12. What is a problem associated with ANT's focus on agency?
13. In what sense is ANT a blunt version of constructivism? In what sense is it committed to realism?
14. In what sense does ANT require "stability" of objects and actions? Why is this a potential problem?

**Study questions for [GS] Chapter 9: Feminism, Science and Technology.**

1. In what sense is science political?
2. What idea does all feminist thinking about science have in common?
3. Describe the three areas into which Godfrey-Smith divides feminist work in philosophy of science.
4. How might sexist images of the relation between mind and nature influence the participation of women in science?
5. According to an early view in primatology, why is there much greater variation in reproductive success among male baboons than females? How does a more recent view explain this?
6. What is one way to explain the change of views in #16?

7. Explain the distinctions between *spontaneous feminist empiricism*, *philosophical feminist empiricism*, and *radical feminist epistemology*.
8. Within radical feminist epistemology, explain the distinction between *feminist postmodernism* and *standpoint epistemology*.

**Study questions for [S] Chap 7: Feminism, Science and Technology.**

9. Give an example of a cultural assumption embedded in the language of biology.
10. Give an example of how technology can embody images of gender, and how this can create social constraints.
11. In what sense are technologies political?
12. What is the claim of Feminist Empiricism?
13. According to Longino, how is it possible for people to agree on facts and yet disagree about the conclusions drawn from them?
14. What is Standpoint Theory (or Standpoint Epistemology)?
15. What is the claim of Difference Feminism?
16. According to Difference Feminism, how does masculine knowledge differ from feminine knowledge?
17. Is the distinction that Difference Feminism draws between men's knowledge and women's knowledge, or between gender and scientific knowledge?
18. What are some ways that the contrast between the abstract and the concrete can be gendered?