**Guiding questions:**

1. Are Fleck’s examples effective in supporting his argument?
2. Should Fleck be interpreted as a relativist?
3. How does Fleck’s account of the structure of science relate to his account of systems of opinion?

**Important terms:**

Thought collective—a community of persons mutually exchanging ideas or maintaining intellectual interaction (39)

Individuals can (and almost always will) belong to multiple thought collectives (ex: scientific communities, nations, religions, etc.)

**DQ:** When Fleck discusses scientific thought collectives, does he have in mind specific disciplines? All practicing scientists at a given time? Everyone familiar with the prominent scientific concepts at a given time?

Thought style—the special “carrier” for the historical development of any field of thought, as well as for the given stock of knowledge and level of culture (39)

**DQ:** What is a thought style? (Norms? Standards? Venues for discourse?) Does every thought collective have a unique thought style?

**The Social Structure of Scientific Knowledge:**

Cognition is not an individual process, but the result of a social activity (38).

Fleck’s key elements of cognition (40):

* *Thought collectives* have knowledge exceeding that of any individual
* *Individuals* contribute to knowledge by ascertaining what follows from existing knowledge in the thought collective
* *Objective reality* is constituted by the results of cognition?

**DQ:** Is Fleck saying that objective reality is constituted by what we think is true given the state of our collective knowledge, or is he saying that (social) cognition enables us to understand objective reality?

**The ‘tenacity of systems of opinion’:**

Cognition relies on *structurally complete and closed systems of opinions* which scientists use as a framework for all observations.

Stages of systems of opinions (27):

1. A contradiction to the system appears unthinkable

* The idea that the Earth is round seemed incomprehensible

1. What does not fit the system remains unseen

* Aspects of tanning, dyeing, the production of adhesives were unaccounted for by the laws of classical chemistry
* The observation that the color of an ionic salt solution can be changed during dilution was ignored because it contradicted the theory of electrolytic dissociation
* The sexuality of children was ignored
* It was not noticed that the ‘agents’ thought to cause infectious disease were also present in healthy persons

1. What does not fit the system is kept secret

* The orbital motion of Mercury was concealed from the public

1. Efforts are made to explain what does not fit in a way that does not contradict the system

* The man possessed by devil story?

1. Current views are supported, sometimes using ‘creative fiction’ even in light of legitimate claims of contradictory views

* The story that honeycombs optimally maximize volume and minimize surface area was used to support the idea that nature is purposeful
* Diagrams of the uterus are drawn to fit current theories
* Kammerer’s fraudulent results in the salamander experiment

**Discussion Questions:**

Fleck’s argument that systems of opinion are resistant to change relies on the use of examples. Are the examples he chooses compelling?

Is Fleck proposing a relativist account of scientific knowledge?

Fleck claims that his social account of scientific knowledge helps to explain how a closed and style-permeated system of opinions could arise. Are all of the features of Fleck’s account of scientific knowledge necessary for his account of systems of opinions?

**Gems:**

It’s interesting to see which aspects of Kuhn’s view agree with Fleck’s work and which diverge from it

Drawing on examples from multiple fields of science helps to strengthen Fleck’s claims

**Lumps of Coal:**

Not all of the examples seem to support his claims effectively

Fleck indicates that he’s interested in change across the history of science, but it’s difficult to see from these sections how a system of opinions would change/get overturned