

Class Meeting 7

March 15

Theme: ***Problématique du changement:***
"Paradigms Lost and Regained"
What Is a "Scientific Revolution?"
Changing Beliefs, Values & Practices in Science and Society

CLASS NOTES:

Is the term "paradigm" clearly comprehensible to you? The prototypical case of a "paradigm shift" – as discussed by Kuhn – is the case of Copernican astronomy.

(What, precisely, was it that made heliocentric cosmology so profoundly "controversial?" What happened, for example, in the case of Galileo?)

Is it applicable to any other specific instances that you know of? Do you know of a case in which a significant conceptual and material change occurred in some other complex human system at biological, psychological and/or sociocultural levels of organization? If so, can you describe it. If not, explain why not. If so, please do.

In a recent book based on interviews with and writings by 29 astronauts and cosmonauts, Frank White shows how experiences such as circling the Earth every 90 minutes and viewing it from the moon have profoundly affected the space travelers' perceptions of themselves, their world, and the future. He also shows how the rest of us, who have been able to participate vicariously and imaginatively in these great adventures, have also been affected psychologically by what has been called "the overview effect." White argues forcefully and at length (if ultimately unconvincingly) for further space exploration and colonization – describing them somewhat hubristically as "inevitable next steps in the evolution of human society and human consciousness," but for us in the present context, the important point is that by conceptually distancing ourselves from – and especially by rising above – our accustomed surroundings it becomes possible to think of bringing a new perspective to bear on what Albert Einstein once called "the problems of our social life."