

Reading Assignment 4: Copernicus' Innovation

ASSIGNED READING T. S. Kuhn. *The Copernican revolution: Planetary astronomy in the development of Western thought*. Harvard University Press, 1957, Chapter 5.

DUE DATE Please bring a typed, hardcopy of your answers to class on Tuesday, January 17th, 2017.

TECHNICAL REQUIREMENTS Answer questions one, two, and five below. Together, your answers should not be longer than a single typed page. Remember to provide page numbers indicating which passages you are paraphrasing. For the remaining optional questions, please write down the page numbers on which Kuhn addresses the question.

- QUESTIONS**
1. Kuhn lists several new ideas (which he calls “essential elements”) that are brought about by the Copernican revolution but which themselves are not Copernicus’ ideas. Describe two such ideas in your own words.
 2. Briefly explain Kuhn’s analogy between a clock that loses one second per decade and Ptolemy’s astronomical theory.
 3. In your own words, explain claim that in his heliocentric model, “the orders and magnitudes of all stars and spheres . . . become so bound together that nothing in any part thereof could be moved from its place without producing confusion of all the other parts.”
 4. According to Kuhn, why were Copernicus’ arguments for the motion of the Earth in the first book of *De Revolutionibus* unconvincing?
 5. What was the “propaganda victory” that Copernicus’ followers emphasized, and why is the victory only apparent according to Kuhn?
 6. In no more than a paragraph, discuss one of the aesthetic reasons in favor of Copernicus’ theory other than explaining planetary retrograde motion without appeal to the stars.
 7. On page 86, Kuhn claims that, “[For Aristotle], astronomy and terrestrial physics are not independent sciences.” In no more than a paragraph, assess whether Copernicus would agree.

REFERENCES

[1] T. S. Kuhn. *The Copernican revolution: Planetary astronomy in the development of Western thought*. Harvard University Press, 1957.