

## Sun Signs and Heliocentrism

A handful of modern scholars have begun to dissect the position of Copernicus within his namesake revolution. Was Copernicus a Copernican? Why? The answers to such enquiries are not as straightforward as they seem, or as some scholars would prefer them to be. There are other questions that arise from these answers as well. Did the science of Astrology, as Copernicus and his contemporaries practiced it, have any bearing on Copernicus' shifting of the heavens? If so, what was its level of influence?

In July 2011, Robert Westman addressed that very question in a seminal work on prognostication and Copernicus. *The Copernican Question: Prognostication, Skepticism, and Celestial Order* explores the mystery of Copernicus' relationship with astrology. The first step in unraveling this relationship is to shed the modern idea that astronomy and astrology are wholly separate entities. Only when astrology is removed from the realms of mysticism and quackery and placed within the same important abilities of practicing astronomers can its impact on Copernican ideas be seen.

Copernicus lived with his professor while he attended the University of Bologna. Domenico Novara was a professor of the "Science of the Stars" which included astrology as well as astronomy. Copernicus, according to Westman "praised the heavenly arts ('which is labeled astronomy by some, astrology by others')" (30). Copernicus reveled in the perfection of his subject just as others, like Regiomontanus, held Euclid's work. This work was practical, measureable, and potentially held up against years of scrutiny. Such works were paramount to the birth of marked distinctions between theories and practice. The theoretical portion

marked the planetary motion and their locations, while the practical side studied the effects those motions had on different places (55).

Such effects were documented and even predicted. Novara wrote the annual prognostication for 1500 from the University of Bologna, aided by Copernicus (64). In fact, according to Westman Bologna and Ferrara were prognostication hotspots within Italy. Copernicus would have been surrounded by astrological prediction at University, at home with his professor, and throughout the town. But astrologers were only as good as the information they received from astronomers, and most of the instruments were not precise enough to make accurate predictions.

At this particular crossroads is where Copernicus' mathematical prowess shines. The certainty of mathematics makes it perfect for making predictions in addition to being a way to improve the other sciences, and the bottom line is Copernicus was brilliant at it. His mathematics were good enough he could do his own astronomy so his astrology and that he aided Novara with were based on his own calculations. By removing a potential source of error Copernicus could accurately and mathematically predict events in the future as well as run the calculations backwards and compare them with established historical, and astronomical, events.

The ability to do his own astronomy gave Copernicus the ability to study and observe the anomalies in the heavens, the moon, the phases of Mercury and Venus. It appears as though Copernicus believed that mathematics was too perfect to have such anomalies and began pairing observations with charts and There is one problem with mathematically establishing a heliocentric view of the planets and stars: it changes not only the established astronomy but also the established *astrology*. Given the "Crisis of the Bologna Prognosticators" that Westman recounts occurred during Copernicus' time in Bologna and

scathing attacks by Giovanni Pico della Mirandola against astrology Copernicus needed to do something.

What could he do? He simply moved the center of the universe. This new model, according to Copernicus, was able to predict all the heavenly motions that were already understood using the current geocentric models. Furthermore, if the Earth was moved to a position around the sun, then the periods of planetary revolution increased with their increased distances from the sun. The heliocentric model was a mathematically beautiful model that explained existing phenomena, and not only defended astrological predictions, but also gave them a precision that only mathematics could provide.

Given the apparent lack of any of Copernicus' direct work with astrology it is easy to see how it can be dismissed as part of the Copernican narrative. What Westman does beautifully in *The Copernican Question* is prove that old axiom that lack of evidence is not evidence of lack. When framed within the larger context of European history and the "Science of the Stars" it would have been impossible for Copernicus to have lived and worked in Bologna and not have some relationship with astrology.

Westman's organization and explanation of the role that astrology played in Copernicus life and work reveals that it wasn't a side science or of just court interest. He argues quite the opposite, that astrology, or at least its defense against people like Pico, was a major driving force in creating his new heliocentric model. If researchers cannot agree with Westman's idea that astrology was as major a force in Copernicus' new model as creating a model without anomalies ever was, they must at least concede that astrology can no longer be ignored as at part of Copernicus' life and therefore must have had some role in his "revolution."