

Phases of Venus Riccioli, *New Almagest*

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Giambattista Riccioli, *Almagestum novum* (Bologna, 1651; “New Almagest”)

Exhibit: Galileo's World | Gallery: Controversy over the Comets, 19
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If Venus shows phases, does this prove that it revolves around the Sun?



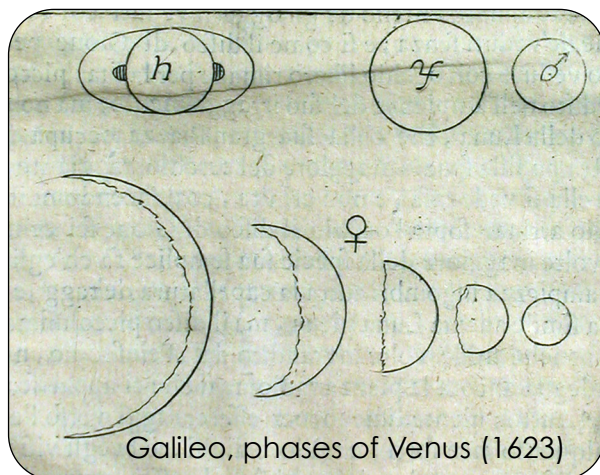
The frontispiece of Riccioli's *New Almagest* depicts not two, but three major systems of the world.

1. The Ptolemaic system rests discarded (lower right corner) because of the phases of Venus and Mercury (upper left corner). All-seeing Argus looks on, holding a telescope. Urania weighs in a balance the two chief world systems which remain:
2. The Copernican system appears as the standard against which alternatives must be measured.
3. Riccioli's semi-Tychonic system weighs in as the most warranted.

A comet and several telescopic discoveries (upper right corner) include the banded appearance of Jupiter and the ring of Saturn.

In the upper left corner (shown here), Riccioli portrays Venus ♀ and Mercury ♂ as they appear when on opposite sides of the Sun. The sides facing the Sun are illuminated. The sides turned away from the Sun are dark.

Do the phases of Venus prove that Venus revolves around the Sun instead of around the Earth?



Galileo's *Il Saggiatore* (1623) contains Galileo's earliest published illustration of the phases of Venus (left) which he had discovered through his telescope. When Galileo looked at Venus through the telescope, he saw a full set of phases.

When Riccioli and others accepted Galileo's discovery of the phases of Venus, did that mean that they were logically compelled to accept the Copernican system, in which all the planets circle the Sun?

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