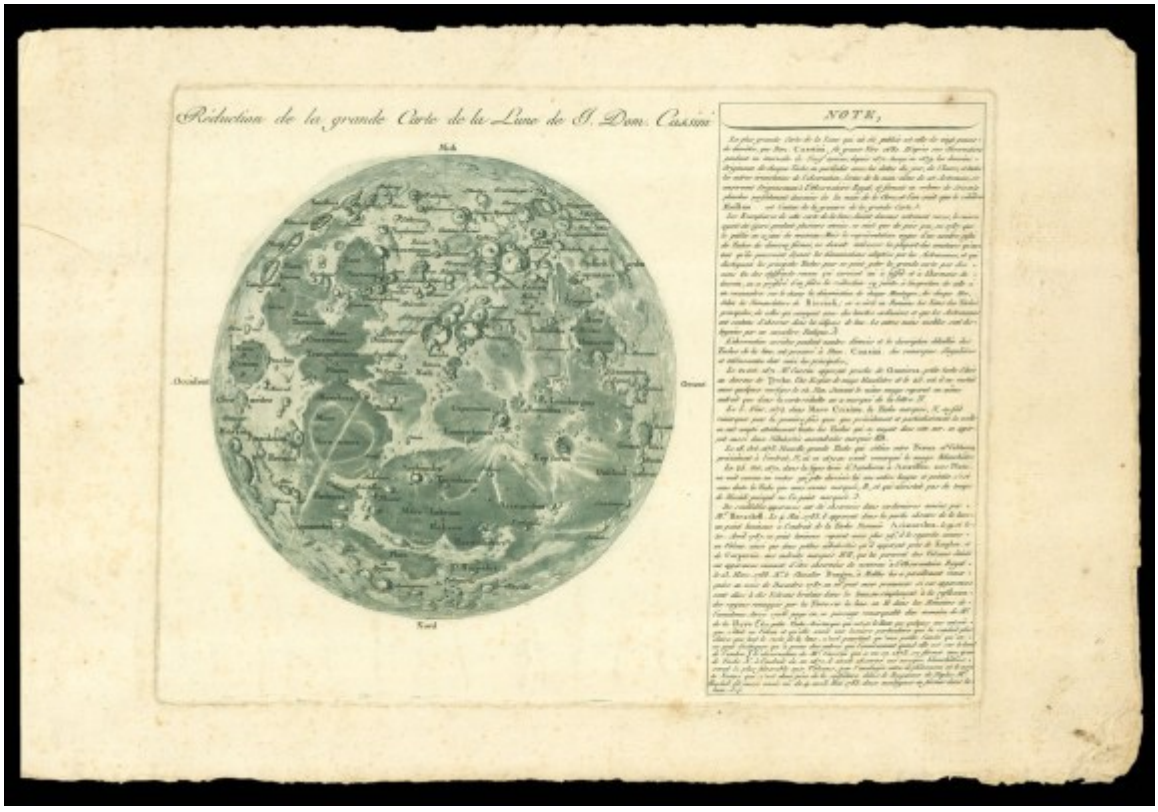


Engraved map with contemporary shading, and engraved note.

THE REDUCTION OF CASSINI’S SEMINAL LUNAR MAP

Reduction de la grande Carte de la Lune de J. Dom. Cassini.

Author
CASSINI, Jean-Dominique

Publication date
1788].

Publisher
Jean-Dominique Cassini,

Publication place
[Paris,

Physical description
Engraved map with contemporary shading, and engraved note.

Dimensions
557 by 567mm. (22 by 22.25 inches).

Notes
The reduction of Cassini IV’s reissue of his great-grandfather’s rare and “elegant” lunar map.

Jean-Dominique Cassini, known as Cassini IV (1748-1845), was born at the observatory in Paris which his great-grandfather, also called Jean-Dominique Cassini (1625-1712), had founded. The elder Cassini was born in Liguria, and studied at the Panzano Observatory under Giovanni Battista

Riccioli and Francesco Maria Grimaldi. In 1669, he moved to France on the invitation of Jean-Baptiste Colbert to help found and become the first director of the new Paris Observatory. Cassini ordered a 34-foot telescope from the great instrument maker Giuseppe Campani for the new observatory, which would prove to be crucial in the creation of his lunar map.

Cassini made approximately 60 drawings of the moon between 1671 and 1679, with the assistance of the artists Sebastien Leclerc and Jean Patigny. The observations took place, when possible, during lunar eclipses, which provided unusual light patterns and a clearer view of the surface. The library of the Paris Observatory retains 57 of these drawings. The copperplate for the map was created from the drawings and engraved by Claude Mellan, who had also engraved Pierre Gassendi's lunar map in 1637. Both the technology and the observations made were so exciting that a manuscript map of lunar features appears in a 1680 painting at Versailles by Henri Testelin, showing Colbert introducing members of the Academy of Sciences to Louis XIV.

The three-dimensional quality given to the lunar features by Patigny and Mellan remained unsurpassed until the advent of photography. It was the first accurate map of the moon, completely "overshadowing" the contributions of Cassini's predecessors, which were highly stylised and lacked interior detail. Contemporary observers commented on their simplicity: Robert Hooke compared the portrayal of the lunar formation Hipparchus by Johannes Johannes Hevelius and Cassini's teacher Riccioli to show the relative paucity of information they provided. Cassini's map, however, shows a level of detail visible only through a telescope of twenty feet in length or longer. The dimensions and positions of the major features are reasonably accurate, but the map's real strength lies in the wealth of verifiable information given on the lunar limb. The moon is oriented to the south, but with the lunar axis rotated about 30-45 degrees clockwise. As well as representing a scientific advance, Cassini's map also staked a claim in a religious dispute. The moon had long been associated with the Virgin Mary, and an analogy drawn between the supposed purity of its surface and her chastity. Observations of the moon from Galileo onwards, however, had shown that the moon's surface was, in fact, far from perfect. It was covered with mountain ranges and pitted with craters. Cassini's map was another firm rebuttal of the theory of the immaculate moon: despite this, Catholic astronomers only gave up the concept at the end of the seventeenth century.

The map has two charming features which are widely supposed to have been included as a reference to the wives of the men involved. In the lower half, on the mountain range Promontorium Heraclides along the Gulf of Rainbows, is a woman's head in profile, with long flowing hair. It is based on a real lunar structure, but is supposed to have been modelled after Cassini's wife, Geneviève de Laistre. Cassini commissioned a pen-and-ink portrait of his wife from Patigny's son the year before the map was published, so the identification may be correct. The other is the marking shaped like the Greek letter phi (φ) which appears in the Sea of Serenity. As well as being shaped roughly like a heart, it also begins the Greek word philos, meaning love or affection.

Cassini IV was also an astronomer, and succeeded his father as director of the Paris Observatory in 1784. In 1787, he found the original copperplate of his great-grandfather's lunar map in the Observatory's archive and reissued it. This second edition is identical to the first, aside from the addition of 'Carte de la Lune… de Jean Dominique Cassini' to the lower edge. Cassini IV also published his own reduced version the following year, the present work (Launay). After the French Revolution in 1789, friction between Cassini IV and the National Assembly caused him to resign his post as Director. The following year he was briefly imprisoned before retiring to Thury, where he lived and worked for the rest of his life.

Cassini IV added labels to significant lunar features on this reduction, as well as a substantial historical note detailing the discoveries made by his great-grandfather and other astronomers. The labels follow the nomenclature of Cassini I's teacher, Giovanni Battista Riccioli, first laid out in his

‘Almagestum Movun’ in 1651, with much of it still in use today. It divided the visible surface of the Moon into octants, with the features in each named for a certain period of history. Octant VIII contains the names of Riccioli’s contemporaries. Famously, the names of Copernicus, Galileo and Kepler appear in the Sea of Storms. Riccioli, a Jesuit scholar, disagreed with their theories of heliocentricity. Interestingly, however, he also credited several Arab astronomers by naming craters after them, despite a tendency in Christian scholars to gloss over their achievements; for example, Azophi and Arzachel (Abd al-Rahman al-Sufi and Al-Zarkali) in the upper portion of the map.

Rare. WorldCat records three examples: BNF; ETH-Bibliothek Zurich; Utrecht University Library.

Bibliography

Albert van Helden, ‘The Telescope in the Seventeenth Century’, ISIS 65 (1974); Helge Kragh, The Moon that Wasn’t (New York: Springer, 2008); Françoise Launay, ‘The moon maiden of Cassini’s map’, Astronomy and Geophysics 44 (2003); Launay, ‘La tête de femme de la carte de la lune de Cassini. Une déclaration d’amour’, L’Astronomie 117 (2003); Scott L. Montgomery, The Moon and the Western Imagination (Tucson: University of Arizona Press, 1999); Thomas Weimer, ‘Carte de la Lune de J.D. Cassini’, The Moon and the Planets 20 (1979), pp.163-167; Ewen A. Whitaker, Mapping and Naming the Moon (Cambridge, 2003); Whitaker, ‘Selenography in the Seventeenth Century’ in R. Taton and C. Wilson (eds.), Planetary Astronomy from the Renaissance to the Rise of Astrophysics (Cambridge: Cambridge University Press, 2003).

Provenance

Price:

Inventory reference: 11983

© Daniel Crouch Rare Books Ltd | 2025