Astronomy: the phases of the Moon. Coloured engraving with tracing paper by J. Emslie, c.1850.

Contributors

Emslie, John, 1813-1875.

Publication/Creation

London (174 Strand) : James Reynolds.

Persistent URL

https://wellcomecollection.org/works/ps6qpqk9

License and attribution

Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
https://wellcomecollection.org

TRANSPARENT DIAGRAM OF

THE PHASES OF THE MOON.

THE various appearances which the Moon periodically presents in her revolution round the Earth, are termed *Phases*, and arise from the different positions which its opaque mass assumes in relation to the Sun and the Earth. When the Moon is between the Sun and the Earth, its dark side is presented to us, and it is consequently invisible; in this position it is called the *New Moon*. Four days after the time of New Moon, it has receded 45 degrees from the Sun, and now a portion of its illumined surface is seen in the form of a crescent (fig. 2.) After eight days, it has departed 90 degrees from the Sun, and shows a bright semi-circular disk; the Moon is now said to be in its first quarter. Gradually shewing more of its illumined surface, it becomes gibbous (fig. 4); and about fifteen days after the time of New Moon, it stands

directly opposite the Sun, presenting a complete circular disk; this is the *Full Moon*, rising when the Sun sets, and shining through the whole night. Proceeding in its course, its illumined surface gradually decreases; approaching the Sun, it becomes a second time gibbous (fig. 6); a Half Moon at its third quarter, assumes a crescent from (fig. 8); and completing its orbit, disappears, becoming a New Moon again as at first. The pointed ends of the Moon's figure when a crescent are called its Cusps or Horns. During the first quarter, they point to the eastward, or the direction in which the Moon is moving in its orbit; and in the last quarter, to the westward; or that path which it has just described.

The *apparent* motion of the Moon is that of rising in the east, and setting in the west; but this is owing to the revolution of the Earth upon its axis. The Moon's real motion round the Earth is from west by south to east. It moves at the rate of forty miles per minute. The Moon turns once on its axis every month, and therefore, always presents the same side towards the Earth; from one-half of the Moon, therefore, our world is always visible; whilst, from the opposite hemisphere, it can never be seen. The Earth, as seen from the Moon, appears thirteen times as large as that body appears to us, and reflects thirteen times the quantity of light that the Moon reflects to us. Experiments have shown, that the light of the full Moon is three hundred thousand times less than that of the Sun; and that it produces no heat, for if its rays, concentrated by a powerful mirror, be thrown on the bulb of a thermometer, no effect is perceptible. The mean distance of the Moon from the Earth is about two hundred and thirty seven thousand miles, and its diameter is computed to be 2160 miles.

LONDON: PUBLISHED BY JAMES REYNOLDS, 174, STRAND.