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Museum of the History of Science

JOHN RUSSELL *portraying the moon*

John Russell (1745-1806) was a Royal Academician and Painter to George III. A specialist in crayon portraits, he became London's leading pastellist of the late eighteenth century. Like that other fashionable artist of the day, the musician William Herschel, Russell was a dedicated and enthusiastic astronomer. He concentrated his efforts on the moon, working tirelessly to make an accurate record of the lunar surface.



National Portrait Gallery, London

The Museum of the History of Science has the major collection of work relating to Russell's lunar observations, material formerly in the possession of the Radcliffe Observatory in Oxford. It includes rare examples of his lunar globe (the 'Selenographia') and engraved lunar planispheres, a large album of lunar sketches representing the detailed work of many years' observing, and the unique giant pastel measuring 5ft across and made in 1795. Russell's earliest sketch in the album is dated to about 1764 and is identified there as his first drawing of the moon, but the main series of detailed sketches begins in 1785. He had two telescopes, a refractor by Dollond with a micrometer, and a reflector by William Herschel, who was the subject of one of Russell's best known portraits. In the event, the Dollond instrument proved more useful, being particularly well suited to Russell's system of lunar measurement, analogous to terrestrial triangulation.

“The Moon requires much attention to be well understood, being composed of so many parts, of different characters, so much similitude in each Class of forms...”

A long letter from Russell to the Radcliffe Observer, Thomas Hornsby, also in the collection at the Museum, offers much insight into Russell's interest in 'this beautiful object', the moon. He tells the story of the progress of his own work and his successive discoveries of the efforts of his more famous predecessors in lunar representation, namely Hevelius, Riccioli and Cassini. While Russell strove for accuracy, he was well aware of the individuality of the

viewer and, as a painter, more conscious than most of the 'artful' aspects of seeing and representing. As his associate William Herschel had discovered using his, own telescopes, 'seeing is in some respects an art which must be learnt.' Russell was prepared to assert that, despite the attentions of specialist astronomers, the particular aptitudes of the artist could make valuable contributions to the study of the moon:

the Moon requires much attention to be well understood, being composed of so many parts, of different characters, so much similitude in each Class of forms, and of such a variety in the minutiae composing these Forms and this difficulty also most considerably increased by the various effects caused by the different situations of the Sun; that I am persuaded many considerable improvements may be made, in correctness of Form in the spots, their situation and distinctness of parts.

Russell's final published contribution to lunar illustration derived from his engravings of two 'Lunar Planispheres', issued posthumously in 1806. Russell's sensibility to the importance of light and shade in representing structure informs the whole enterprise, for while one planisphere is a conventional picture of the full moon, the other presents – in the interest of maximizing detail – the impossible image of the whole

moon illuminated obliquely (see overleaf). Russell had told Hornsby that his very first telescopic view of the moon had been at two days after the first quarter: *you will conclude how much struck a young Man conversant with Light, and Shade, must be with the Moon in this state; especially, as I was not taught to expect such clearness and expression, as is to be found near and upon the indented Edge.*

In his second planisphere Russell endeavoured to effect this impression across the entire disc and he added a specially constructed scale to allow distances to be taken from his illustration despite the distorting effects of the planispheric projection.

Russell's next lunar venture, following the large pastel of 1795, was to produce a globe of the moon – 'the only Work of this nature ever yet submitted to the Public,' he claimed, and 'the result of the unremitting labour of many years.' The published aim of the artist was now boldly stated as 'a degree of accuracy far superior to any Map of the Moon hitherto published.' His printed broadside of 'Proposals for Publishing by Subscription, a Globe of the Moon' explained that gores printed from an engraved copperplate were to be applied to a 12-inch globe. The cost of the globe alone was set at five guineas, half to be paid in advance by subscribers. Mounting in a stand would cost extra and among alternative stands would be one for replicating the effects of libration – the real and apparent oscillatory motions of the moon, the full cycle of which reveals somewhat more than half of her surface to the persistent viewer. Among those authorized to receive subscriptions was the instrument maker George Adams.

The Selenographia – the name Russell gave to the full apparatus of the globe mounted in its elaborate stand for demonstrating the lunar movements – was published in 1797. In the same year he issued a pamphlet, describing the whole instrument and the changing aspect of the lunar disc due both to oscillation about a mean view from earth and the changing relative positions of the moon and the observer. All of these were demonstrable with the help of Russell's specially-devised stand. It seems that, despite Russell's enterprise and ingenuity, he was not able to attract the kind of interest he had hoped for: only a few examples of his Selenographia are known. The Museum also has printed sheets of uncut gores for the globe.

The Museum's album of more than 180 drawings is an impressive record of Russell's sustained application, attention to detail and dedication to his quest for accurate depiction. Yet the sketches that inevitably attract most attention are the few where he elaborates an image of a winged female figure (an angel?) among the features of the lunar surface. It seems that we want our artists to see more than the bare impression. Yet the history of Russell's obsessive quest to depict the moon shows that the convention of 'accurate representation' does not obviate artistry, the contingencies of skill and ingenuity, or the inevitability of interpretation.

