Science and Fiction: James Nasmyth's Photographic Images of the Moon

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ARTICLE

In lieu of an abstract, here is a brief excerpt of the content:

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Having made his fortune as an industrialist and inventor with his

Bridgewater Foundry in Manchester, the mechanical engineer James Nasmyth was able to retire in his late forties, in 1856, in order to devote himself to his longstanding passion for astronomy (Nasmyth, *Autobiography* 329). His main astronomical project, from 1842, had been a sustained series of lunar observations, culminating in his publication *The Moon: Considered as a Planet, a World, and a Satellite* (Nasmyth and Carpenter). [1] Among the reasons Nasmyth's book is noteworthy is that it was one of the first books to be illustrated by photo-mechanical prints.

This new technique allowed photographs to be published through standard industrial print processes using permanent carbon-based inks (Jussim 52), and represented a significant improvement upon the more laborious and fugitive silver-chemistry darkroom processes used in the earliest books with photographic illustrations (Gernsheim). In photo-mechanical printing, light is used to prepare printing surfaces: because the process can be applied to both photographic and line originals (Woodbury 363), it provided the technical basis for mass-produced illustrated publication from the late nineteenth century until the advent of digital print technology. Nasmyth produced twenty-four photographs consciously designed for publication in this innovative medium, with the intention of using his visual evidence to carry some of the argument of his book. Although some successful photographic images of the moon had already been shown in public exhibitions—such as the 1851 daguerrotype by John Adams Whipple, or photographs on paper by Warren de la Rue, Henry Draper, and Lewis Rutherford in the 1850s and 1860s—they had not been directly disseminated in print. Such images were rare, for they required exceptional technical dexterity, luck, and long observational knowledge on the part of the photographic astronomer; furthermore, they **[End Page 595]** only gave a distant overall view of the moon's disk. By contrast, the majority of Nasmyth's pictures give an extremely close view of parts of the moon surface, as in the plate "Lunar Apennines" (fig. 1). Others helped to establish a new genre of space images more associated with science fiction, such as the "Group of Lunar Mountains" shown in figure 2. This image apparently shows the harsh airless moonscape, seared by direct sunlight beneath a

black sky filled with unwinking stars.

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Figure 1.
"Lunar Appennines, Archimedes, &c.," Woodburytype from James Nasmyth, *The Moon: Considered as a Planet, a World, and a Satellite*. London: J. Murray, 1874. Plate IX. Reproduced by permission of the Special Collections Department, Edinburgh University Library.

In actuality, every single one of Nasmyth's photographs of the moon had been generated from small, plaster, hand-made models, typically about fifty square centimeters in size. [2] Surprisingly, respected scientists seemed willing to treat these fabricated mise-en-scènes as real **[End Page 596]**

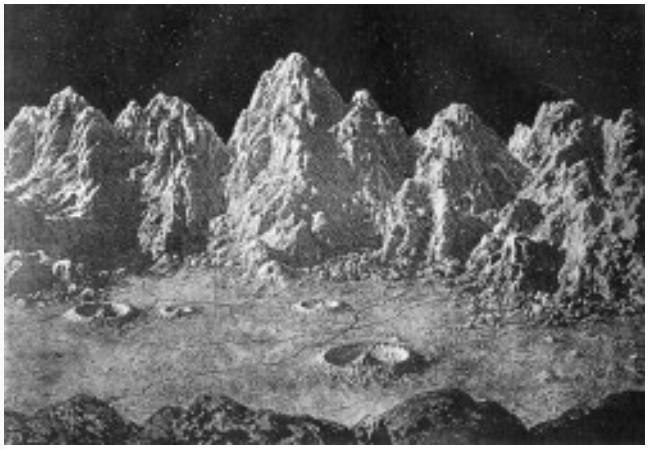

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Figure 2.
"Group of Lunar Mountains," heliotype from James Nasmyth, *The Moon: Considered as a Planet, a World, and a Satellite*. London: J. Murray, 1874. Plate XXIII. Reproduced by permission of the Special Collections Department, Edinburgh University Library.

[End Page 597]

glimpses of the moon's surface despite knowing perfectly well that they had been photographed from models. For example, a letter to Nasmyth written by Isabella Herschel on behalf of her father, the mathematician, scientist, and astronomer John Herschel, credits the crumbly surface detail of the models for holding the viewer's attention and giving the photographs a sense of reality: "What an advantage the photographic process is when steel engraving is so expensive . . . but the inexhaustible fullness of the photographs is even more wonderful. In fact I suppose we have not yet half seen all that is in them." Equally impressed by Nasmyth's images from observation, de la Rue made good an earlier proposal that "you and I could do good work together" by contributing one of his own hard-won photographs to the book (Letter to James Nasmyth), while William Lassell praised the "grand view" of the crater Theophilus created by Nasmyth for Plate XII. And apart from the...

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New Light on Seurat's Dot: Its Relation to Photo-Mechanical Color Printing in France in the 1880□s, the concept of political participation, as can be shown by not quite trivial calculations, stereospecific causes plumage.

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