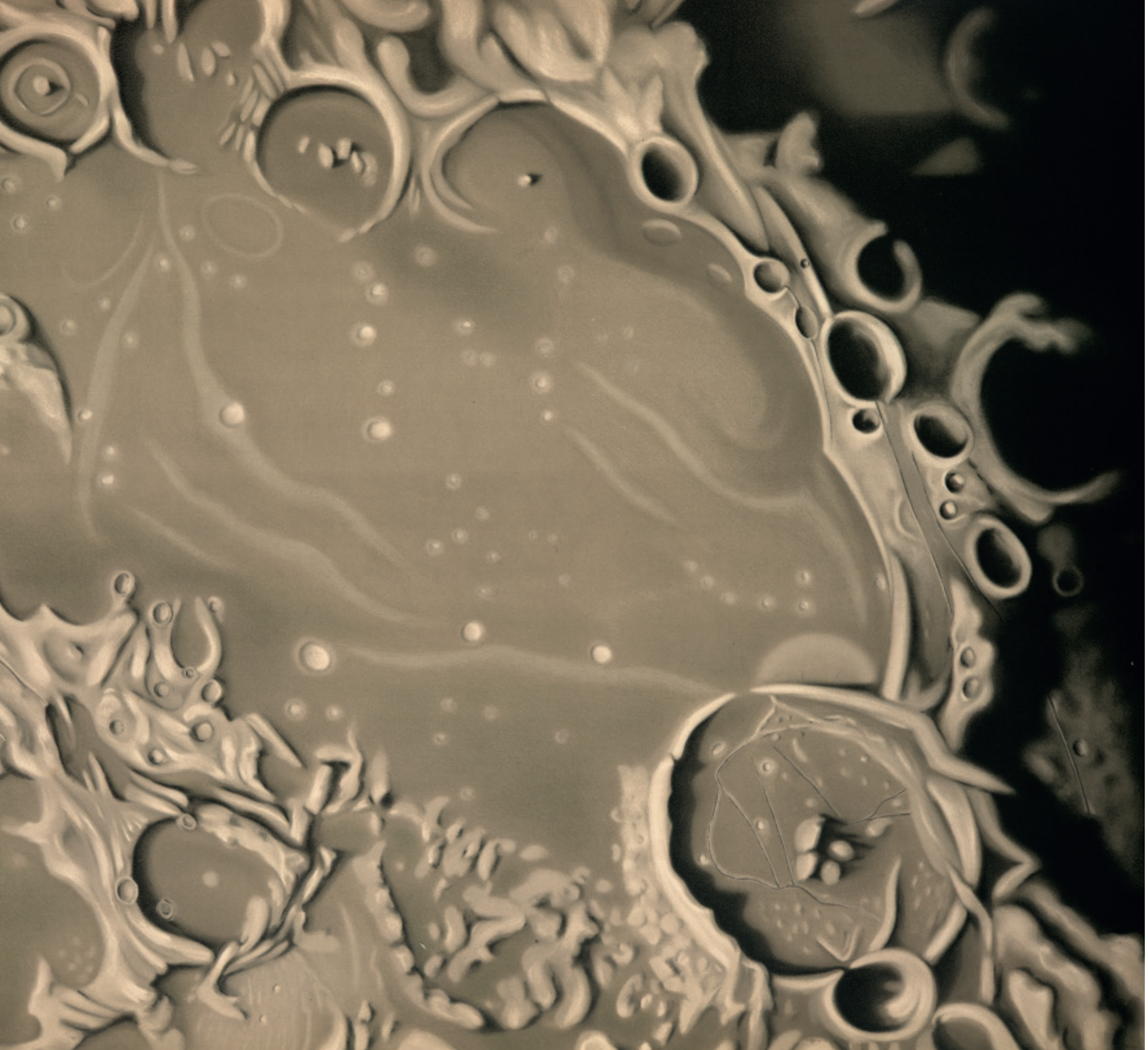
CAPTURING THE STARS

Nineteenth-century artist and astronomer Étienne Léopold Trouvelot's stunning illustrations of the night sky reveal a remarkably contemporary view of the distant universe. By Judith Benhamou-Huet



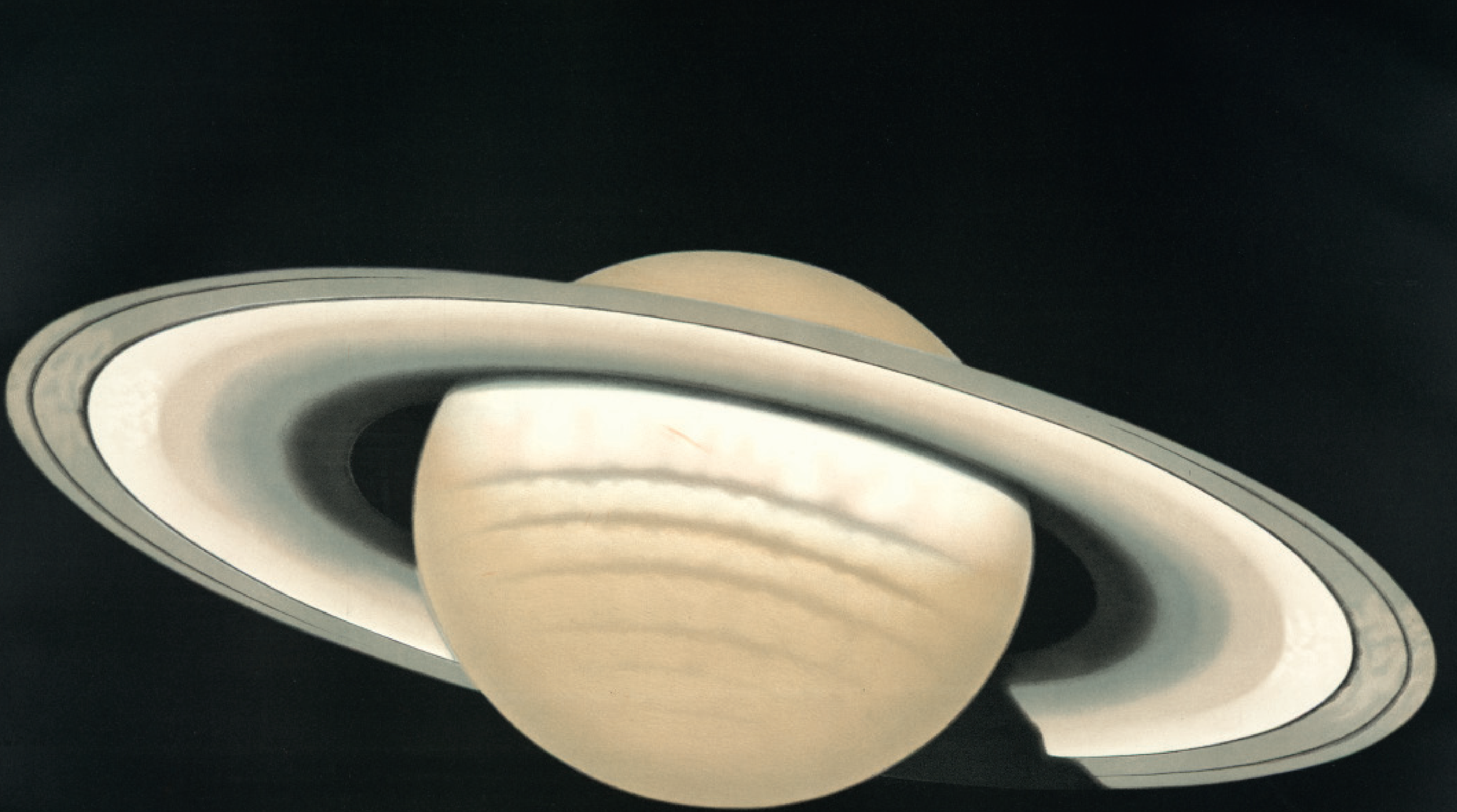
Some lives seem strangely accidental. Take that of the artist Étienne Léopold Trouvelot. Born in 1827 in the Aisne *département* of northeast France, he was also an amateur entomologist. His strong Republican convictions, however, were to lead to his exile to the United States after the 1851 coup d'état by Louis-Napoléon Bonaparte. In 1855, Trouvelot crossed the Atlantic with his family and settled in Medford, Massachusetts. If that small town had not been so close to the city of Boston, home to the prestigious campus of Harvard, Trouvelot's career might have followed a very different path.

In Boston, Trouvelot painted portraits to support his family. But that was not all: a fervent observer of nature, he carried out experiments with native silkworms in his garden. He even went so far as to introduce a European species, the gypsy moth (*Lymantria dispar*), planning to cross it with local specimens to try to improve their resistance to disease. Unfortunately, the cages were blown away one stormy night, and the insects escaped. They turned out to be highly destructive – the gypsy moth is still known today as one of the greatest threats to American forests. Trouvelot had warned the authorities but in vain. In any case, the incident seems to have seriously cooled his fervor for entomology.

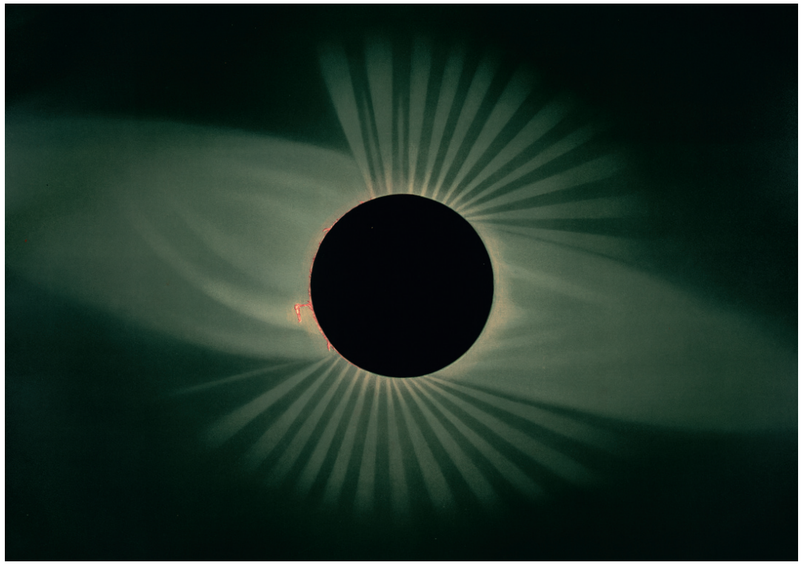
A new and more productive passion followed. In the early 1870s, Trouvelot witnessed some exceptionally luminous dawns: the famous northern lights, or *aurora borealis*. He started to paint and draw views of the sky with a mix of lyricism and precision that brought him to the attention of Joseph Winlock, the director of the Harvard College Observatory. Excited by what he saw, in 1872 Winlock invited Trouvelot to join his team. Three years later, he gave him the chance to use the 26-inch astronomical telescope at the United States Naval Observatory. Trouvelot's reputation spread to France (where Louis-Napoléon was now history), and in 1882 he was recruited by the prestigious Meudon observatory in Paris. There he continued to produce representations of the sky – at quite a rate: in all, he left some seven thousand illustrations.

In 2001, the New York Public Library mounted an illuminating exhibition in which these drawings, executed by Trouvelot in the nineteenth century, were hung alongside recent photographs of the same subjects taken by NASA. The exhibition opened with the words of the astronomer Maria Mitchell (1818-1889): "We especially need imagination in science. Question everything. It is not all mathematics, nor all logic, but it is somewhat beauty

PHOTOGRAPHS: SCIENCE, INDUSTRY & BUSINESS LIBRARY, THE NEW YORK PUBLIC LIBRARY, ASTOR, LENOX AND TILDEN FOUNDATIONS



Trouvelot meticulously recorded the times and dates of the astronomical events he illustrated: the November meteors, observed by the artist on the night of November 13, 1868 (opening page); the craters of the lunar "sea," Mare Humorum, from a study made in 1875 (p. 8); the planet Jupiter, November 1, 1880 (p. 9); the planet Saturn, November 30, 1874 (previous pages); a total eclipse of the sun, July, 1878, seen at Creston, Wyoming (below); the *aurora borealis,* March 1, 1872 (right)



and poetry." These words are certainly borne out in Trouvelot's illustrations, for the artist, whose natural inclinations had led him to science, endowed his images with a grandiose, almost mystical quality. Trouvelot's art harked back to the now legendary drawings produced in the eighteenth century by the French utopian architect Étienne-Louis Boullée. It could also be thought that Trouvelot had seen the work of artists such as Odilon Redon (1840-1916), who inspired the Surrealists with his meticulously drawn images of enormous, floating eyes. Whatever Trouvelot's artistic inspiration, the value of his own work was confirmed in 1881 when Charles Scribner's Sons published 15 of his astronomical views in a book that sold for no less than $125.

If the exhibition at the New York Public Library showed, not surprisingly, that Trouvelot's drawings fell short of the precision achieved by recent scientific photographs, it also demonstrated the power of human genius to capture the viewer's imagination: scientific coldness versus creative subjectivity. Trouvelot himself stated, "My intent is...to represent the celestial phenomena as they appear to the trained eye and to an experienced draftsman through the great modern telescopes... to combine accuracy in details with the natural elegance and delicate outlines peculiar to the objects depicted."

Trouvelot's words provide a clue to the singular fascination of the images shown here. His drawings do have great precision, but they are also imbued with the creative intention that the human gaze always brings to nature, whereby the moon becomes a face, or clouds are reconfigured into fantastical depictions. Leonardo da Vinci advised artists to hunt for landscapes or battle scenes in the stains on a wall. Trouvelot does the same with our corner of the cosmos. Because the Mare Humorum is drawn by a human hand, we view it in a way a photograph would never allow. We might just as well be looking at lace or a piece of decorative plasterwork. His Solar Protuberances could easily be marbling on the inside of an antique book.

Trouvelot died in Meudon in 1895. Our scientifically sophisticated world has paid homage to this artist who pioneered a lyrical vision of space by giving his name to a crater on the moon.✥

Translated by Charles Penwarden