



DOI: 10.5281/zenodo.1477970

DARK SKY: AESTHETICS OF THE EXTRATERRESTRIAL LANDSCAPE

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Received: 26/02/2018

Accepted: 01/07/2018

ABSTRACT

One consequence of the exploration of the solar system is the accumulating body of images of the surfaces of planets, comets, moons, and asteroids. These images are landscapes, although the land they represent may be quite unlike Earth. Extraterrestrial landscapes may incorporate conventions of representation that provide a familiar grounding for the viewer. However, images of alien landscapes also break some of those conventions and force us to consider the nature of landscape itself. The presence of artistic conventions in the pictures of non-terrestrial landscapes taken during missions to various bodies in the Solar System suggest a counterpart in the history of earthly landscape images. Conventionalizations in these images may be the consequence of imager design, processing, and editing of images that converge around or mimic representational norms found in pictorial images of terrestrial subjects. Deviations from the norms of terrestrial representation may constitute the emergence of an aesthetics of mediation, which may be the result of the unique conditions found on the body itself or the result of human intervention in the imaging process. "Normalized" views of extraterrestrial landscapes simulate a human viewpoint in color or perspective, but certain aspects of imaging technology, and associated science goals, dissociate the earth-bound viewer from the unearthly terrain.

KEYWORDS: landscape, aesthetics, Moon, Mars, Comet 67P/Churyumov-Gerasimenko, photography

The Apollo moon landings provided the first opportunity for humans to describe aesthetic experiences on an extraterrestrial landscape based on direct observation. During his lunar excursion, Neil Armstrong described the moon's surface as having "a stark beauty all its own." Buzz Aldrin described the scene a few minutes later with "beautiful, beautiful," and as "magnificent desolation" (NASA 1969). While not necessarily the most eloquent descriptions, they were the reactions of humans in a truly virgin landscape. Like tourists in an exotic land, the astronauts had the privilege of an unmediated view of this extraterrestrial landscape. That both astronauts described what they saw in terms of beauty is interesting, if not particularly revelatory. It was not beauty in the classical sense of order and harmony, but a fascination with the new and the unfamiliar, a reaction of enthusiasm more than a statement of aesthetic theory.



Figure 1. Untitled photograph from the Apollo 15 mission, July 1971 (Museum of Modern Art, NY).

Within a decade of the first moon landing, photographs taken by astronauts were included in an art exhibition for the first time (Figure 1). In 1979 the Light Gallery in New York City featured NASA photos, curated by Peter McGill, interspersed with the works of Ansel Adams. Audiences were invited to think not only about the visual similarities between images but also to imagine that the astronauts were more than scientists doing documentary work. A fascinating review of the exhibition by Gene Thornton in the *New York Times* expressed skepticism about the context and the message: "It takes a lot of nerve to present NASA photographs as works of art" (Thornton, 1979). The reviewer was insistent that these photos were not works of art, but he did point out that they expressed their own visual language of landscape: "To come from the bare surface

and black sky of the moon to the clouds, trees, snow-covered mountains and dazzling sunlight of Ansel Adams's *West* is not merely to come from the moon to the earth but from one esthetic to another." Today, many of the photos from that exhibition are part of the permanent collection of the Museum of Modern Art.

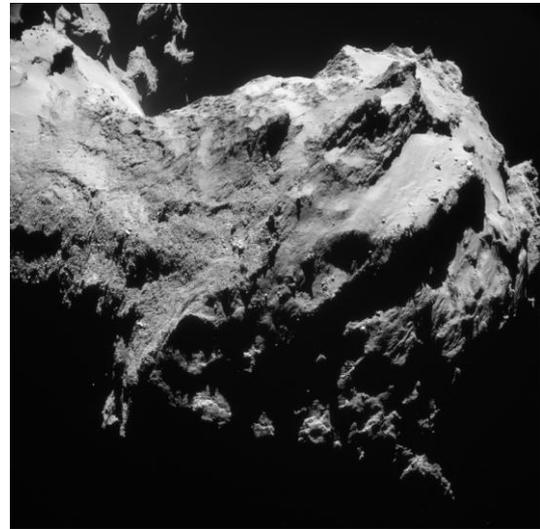


Figure 2. Rosetta Photograph of Comet 67P/Churyumov-Gerasimenko, September 2014 (ESA/Rosetta/Navcam - CC BY-SA IGO 3.0).

Over the last few years, a steady stream of images has come to us from bodies around our Solar System: the Curiosity rover on Mars, the Rosetta probe to Comet 67P/Churyumov-Gerasimenko (Figure 2), the New Horizons flyby of Pluto. Along with the body of images from earlier landers, orbiters, and flybys that explored Venus, the moons of the outer planets, and our own Moon, we now have a substantial visual record of the appearance and nature of worlds beyond our own. For the scholar and student of visual culture, these are images that continue to present an opportunity and challenge. While we take the image of the earthly landscape for granted, these extraterrestrial landscapes open the possibility of reconsidering how we define and witness landscape as an experience, a visual genre, and as an idea. Because we have now a significant body of work to consult, we may be able to address the ways in which we can construct a rudimentary aesthetics of the extraterrestrial landscape. I have been thinking about the ways in which these images might serve as teachable moments in visual culture, as challenges to our descriptive language and our theories of visual meaning. The difficulty, however, is that these post-Apollo images are the products of the robotic explorer. They represent a mediated vision of places no human has actually witnessed. Any discussion of aesthetics, of beauty and its other, has to be framed by the intervening technology.



Figure 3. *Curiosity rover photograph of Mount Sharp, Mars, September 2015 (NASA/JPL-Caltech/MSSS).*

We naturally seek out the familiar in the terrain of an unknown place. It is an act of contextualization and orientation. We look at pictures of alien worlds and identify what we know, based on both experience and visual memory. The language of description that we use with these images, and by “we” I mean those of us who are not invested in the science being done with the images, is sometimes sprinkled with phrases that suggest resemblance or affinity. A Martian scene may “look like the American Southwest,” for example (Figure 3). Our descriptions resemble the language of the tourist, because the tourist vision is comparative (Jakle, 1987). The tourist sees the landscape as an outsider. The native sees that same landscape as ordinary and prosaic, but the visitor brings a different view and supplies a different meaning. The extraterrestrial landscapes, however, have no native view. There is no intrinsic context of personal experience, and even astronauts on the Moon were temporary visitors and “outsiders,”

tourists, who could only provide an external context for what they saw. These are unique views of the previously unseen. The “first views” sent by spacecraft have few earthly equivalents – most every landscape of Earth has been seen long before the sight was recorded or described.

Gene Thornton’s objections to seeing space photos in a gallery was that they lacked the artistic intent of the human photographer’s vision. The Curiosity rover photograph of Mount Sharp is “white balanced” to aid geologists who are studying the rocks in the scene. The color shift renders the landscape as almost banal, nearly invisible because it is so similar to what we already know and see on Earth, but that was not the point of the color manipulation. The scientists processing the image have inadvertently created a simulated native view of comforting familiarity. It was incidental, or accidental, that they also created the kind of picture that nearly anyone might snap with a cell phone on a visit to Arizona.

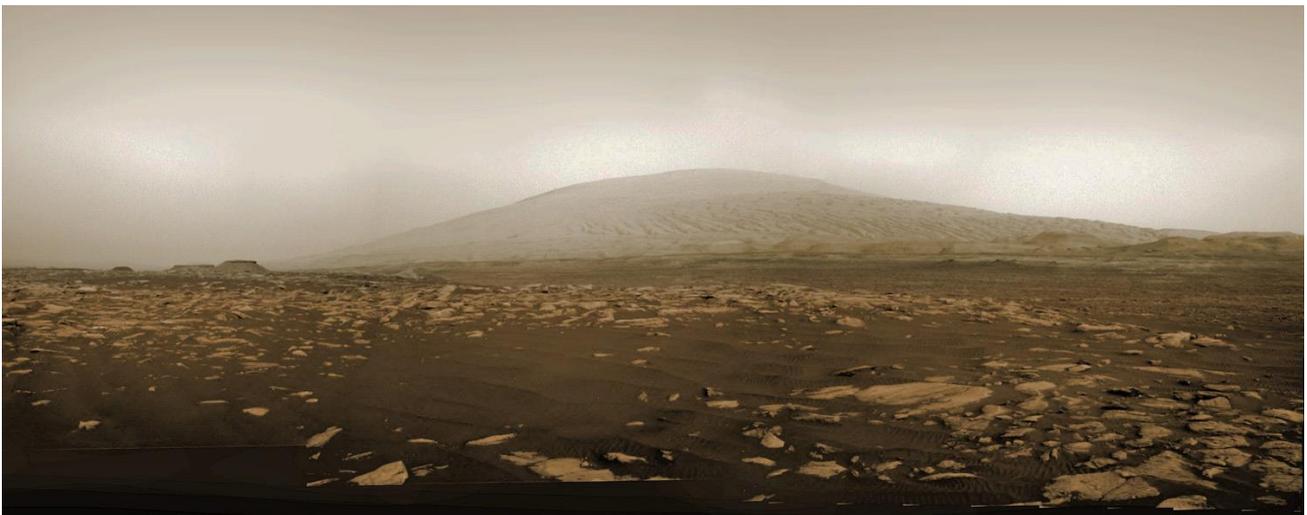


Figure 4. *Curiosity rover photograph of Mount Sharp, Mars, February 2017 (NASA/JPL/Ken Kramer/Marco Di Lorenzo).*

The “true color” view of the same general landscape, on the other hand, may appear as moody and emotional, shifted enough from the common impression that we read the photograph expressively (Figure 4). Only in this second image can we speak of the differences to the familiar landscapes of Earth, and only if we acknowledge that this image is also selective and contrived. It is still the robot’s vision, not our own, even if there are hints of drama that we humans bring to or impose upon the picture, manifested through the choices made in the production of the picture itself (Lynch and Edgerton, 1998). But is this Romanticism merely wishful thinking about the exotic locale? It is not the choice of the robot, nor of the controllers on Earth seeking data. There is not (yet) an “art view” built into the mechanism that allows choices, only a process of gathering images that may or may not be interesting. Chance plays an important, and poorly studied, role in the way that we remotely perceive other worlds.

Buzz Aldrin has said that his words from the surface of the Moon were both a visual observation and a conceptual label, a reaction to what he saw but also to what he knew about what he saw (Aldrin, 2014). The hostile environment, the lack of atmosphere and the fact that the landscape had not changed substantially in thousands of years were conceptual factors that shaped his sensory experience of the lunar landscape (Figure 5). But his own physical presence in that place allowed him to have a genuine emotional connection to the landscape, something that the viewer of the photographs cannot fully experience. Although the Apollo astronauts were trying to accurately describe and document the places they visited,

I would argue that the impulse of emotion guided their verbal and photographic reactions. Aldrin’s “magnificent desolation” was a reaction of awe (and perhaps of fear), inspired by both the sight and the idea of the place, that could only come from actually being in that place, with only his spacesuit keeping him alive in the hostile environment. And this emotional connection is what aesthetics in the traditional sense attempts to define and understand. But the photographs made by astronauts on the Moon were guided by the imperative of gathering science data. The choice of view and composition in any given photograph was situated within the tension of the immediate, human, experience and the rational act of documentation.



Figure 5. Buzz Aldrin, *Photograph of the Apollo 11 landing site, 21 July 1969* (NASA).

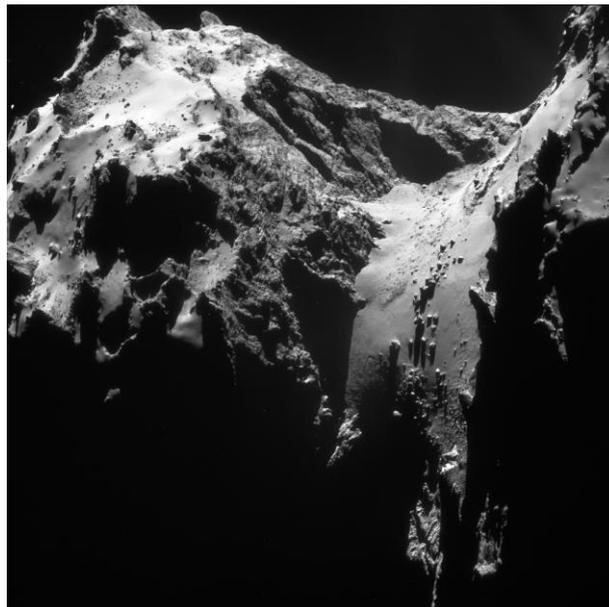


Figure 6. *Rosetta Photograph of Comet 67P/Churyumov-Gerasimenko, January 2015* (ESA/Rosetta/Navcam – CC BY-SA IGO 3.0).

Sooner or later we gravitate to the idea of the sublime when we look at the landscapes of dark skies and airless alien mountains. Our instinct toward comparison and contrast when confronted with the sight of the new and the strange is sometimes an attempt to gauge danger and elation. Edmund Burke's characterization of the sublime as the emotions of extreme experiences in the face of nature are apt for the astronauts who are standing on the surface of the Moon (Burke, 1767). As Jean-François Lyotard points out, "modern aesthetics is an aesthetics of the sublime, though a nostalgic one" (Lyotard, 1986). But just as the viewers of paintings of landscapes are never able to connect to the experience of the artist who journeyed to distant and exotic places to create them, we have little prospect of sharing the connection between participant and location that the Apollo astronauts experienced. The emotion of the experience arrives indirectly through our assessment of the context of creation and the degree to which we assign an expressive intent to the final realization of the image. For all the other bodies in the Solar System that have only been visited by machines, such as Comet Churyumov-Gerasimenko, we have no human spectator at all, and we face the problem of interpreting images of places that we cannot visit and for which we lack any direct human experience (Figure 6). The conventions utilized in the production of such images are applied after the fact, in the absence of a guiding human observer. They make visible a different kind of tension between alien-ness (Romantic "horror") and familiarity (cliché, metaphor, or touristic *indifférence*) (Dumont, 1984).

The artist Robert Smithson once described the tensions between the direct observation of a place and the photographic record made of that experience. His commentary on the beauty (or anti-beauty) of the New Jersey landscape was as a visitor to a strange but familiar land, littered with "craters," "voids," "nebulosity," and "minute particles...under a bleakly glowing sun" (Smithson, 1979). His photographs conveyed the composed, calculated views of an artist's structured vision, but the immediate reaction of the artist to the actual place was indifference, a sense of disinterest, dreariness, and dissolution. His reaction suggests a postmodern sublime, different from the excitement of astronauts on the Moon, but similar to the clichés employed in describing the artifacts of extraterrestrial exploration. He found himself experiencing the landscape through the camera as if "photographing a photograph" and "walking on an enormous photograph made of wood and steel" (Smithson, 1979).

This may be why I have been so fascinated by the Rosetta images. Their weird compositions, sharp contrasts of light and dark, and disorienting perspec-

tives create a sense of dislocation and otherness that flirts with earthly analogues but does not precisely fit any of them. The brilliant landscape with the dark sky is strange enough, but to have that same darkness below is to pull the ground from beneath our virtual feet. The visual plunge into the void gives us pause, even as we are reassured that this is merely a picture, and a highly composed one at that. The spacecraft is an imperfect substitute spectator, guided by humans but unfettered by many of the physical limits of humans. It is we Earth-bound viewers of the image that have the emotional reaction to the scene. And for the moment I am setting aside the planning and processing done by the engineers and scientists that make this image in the first place, not to mention the constraints of the camera itself. I am not sure that what we experience in looking at an image like this is the shiver of the sublime, what 18th century landscape spectators called the awful sensation of nature, at least not as Burke knew it. But it does raise the prospect that the images of extraterrestrial landscape are unexpectedly difficult to describe without resorting to worn out analogies and comparisons. The pictures released by the ESA and NASA appear to us to be more than documentation. But we need better tools to respond to them.



Figure 7. Ansel Adams, *Monolith, the Face of Half Dome*, Yosemite National Park, California, April 17, 1927. (Metropolitan Museum of Art, NY, Gift of Ansel and Virginia Adams, 1979, © Photograph by Ansel Adams).

Comparisons help, but they fall short because they lack some of the essential elements that distinguish the extraterrestrial from the terrestrial. The

1979 Light Gallery exhibition built a deliberate comparison between the extraterrestrial landscape and the landscape photos of Ansel Adams. His photograph *Half Dome at Yosemite* from 1927 exemplifies the formal and aesthetic argument that the curators were making (Figure 7). The crisp detail, high contrast, and the dark sky bear a passing similarity to the Apollo lunar landscapes, but even more to some of the Rosetta pictures. The deliberate manipulations used by Adams to achieve the look of his photograph were driven by an overarching creative aesthetic rather than a documentary priority. Artfulness, for want of a better word, guided the creative process.

The dark sky of Ansel Adams' photograph is a consequence of choices of film, filter and printing by

an artist. For the Rosetta images, or those of the Moon or other bodies lacking an atmosphere, the dark skies are also artifacts of imaging technology, choices of exposure time for example. But we think and react differently to these than we do to the obvious artistic or expressive aspects of earthly landscapes, perhaps because we project our expectations about science rather than art onto the images. The inherent tensions between the "art" image and the "not-art" image are contextual, but not formal. The same criteria for formal description (and aesthetic judgment) could be applied equally to both. It is our presumed knowledge of intent and the craft of image making that make them seem different.

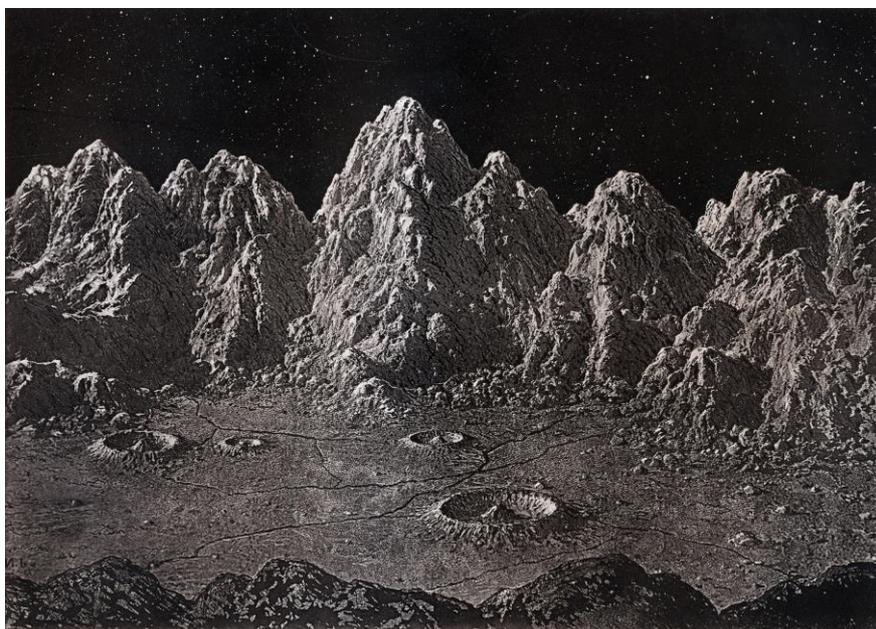


Figure 8. James Nasmyth, *Group of Lunar Mountains (Ideal Lunar Landscape)*, 1874.

But an argument advanced by Barbara Stafford suggests that the visual artifacts of technology intersect with the traditional views of art precisely because perception is perhaps "the constitutive form" of knowledge (Stafford, 1996). The nineteenth century impression of the lunar surface is based on the expectation that the Moon will look like a rougher Earth, as in James Nasmyth's 1874 image (Figure 8). It doesn't look like the moon we found when we got there. But Nasmyth's starry sky and jagged peaks are a surprising counterpart to the Rosetta images. Nasmyth assumed the starry sky would be prominent in our visualization of the extraterrestrial landscape as a direct spectator on the surface of the moon. But the images we have received are dominated by the utter blackness of space as an artifact of their technological, rather than perceptual, origins.

Aesthetics is both a theory of beauty and a broader definition and philosophy of art. But the "de-definition" of art since the early 20th century has meant that the work of art as artefact has only to be accorded an appropriate context in order to become art. Much as Gene Thornton saw the status of NASA lunar photographs changed due to their placement in an art gallery, the opportunity to see, and critique, the extraterrestrial landscapes of Rosetta on a par with landscape paintings or terrestrial art photographs could merely mean that we give them the chance to be seen and "appreciated" by the artworld. The mere exhibition of such images does not mean that we have developed a specific explanation for their beauty, any more than the exclamations of astronauts on the Moon can be seen as reasoned theory instead of immediate emotional reaction.

NASA's Art Program, in existence since 1962, was initially an attempt to suggest that the experiences of the Space Age could find expression in artefacts that were, as a class of images, unambiguously designated as art. This class of images did not contain the mission photographs themselves but works that generally presented their "art-ness" through distinctive style and media in a clear separation of art and science. But consider the more recent manifestation of aestheticizing the visual culture of space exploration, the Juno mission to Jupiter. Not only does the mission seek input from the public about what to photograph, NASA also invites members of the public to process the raw image data returned from the Juno spacecraft in ways that are both scientifically useful and aesthetically pleasing. "Some creations are works of art," according to the mission web site, and the public is encouraged to create galleries of such processed images based on the contributions of their favorite "artist" (in quotes on the site) (NASA, 2016). By making the mediating role of the "artist" explicit, the mission scientists imply that the Juno images have two separate identities, as data and as expressive artifact (Latour, 1998). The problem of aesthetic value is shifted away from the image makers, whose interest is in the data that the images encode. The public "artists" who manipulate the data into pretty pictures could be seen as disinterested agents who mediate between science and art, or virtual tourists who impose their aesthetic vision and upon that data as an act of interpretation. The tension between earth-bound viewer and machine explorer is left unresolved.

Art historian James Elkins has voiced skepticism about a theory of the visual that embraces both art and scientific imaging (Elkins, 2003). But we live in

an era when the divisions between the two blur and merge as never before. We have internalized the digital, the virtual, and the artificial in our image-making and our image consumption. The immediacy of the tourist experience is being replaced by the acceptance of remote viewing as a viable alternative to physical presence. If, as students and scholars of the image, we are to build the language and conceptual framework to describe and interpret the images of this era, then perhaps the collaborations of humans and machines will help define an aesthetics of mediation. The experience of the extraterrestrial landscape in images, and even in person, may become the expression of a postmodern sublime.



Figure 9. View of boulder photographed during second Apollo 17 EVA, 12 December 1972 (NASA).

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