

Shooting Stars

*A study on the (non)human nature of astronomical photography in relation to
Joanna Zylinska's The Creative Power of Nonhuman Photography*



Figure 1

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Photography Theory and History of Contemporary Photography

"Any prudent and effective way of envisaging and picturing a transformation of our relation to the universe must thus be conducted not in terms of a human struggle against the machine but rather in terms of our mutual co-constitution, as a recognition of our shared kinship." (1, p. 78)

Reading the second Chapter of Joanna Zylińska's *Nonhuman Photography*¹ has raised several questions in me regarding the philosophy of photography. In respect to astronomical photography, which, at the moment is my main research interest, I started to make analogies with the arguments on the ontological aspect of the photographic medium. It may be a subject of a lengthier debate whether astronomical, or as it is more commonly known, astrophotography can be categorized within the realm of the nonhuman or not (based on the three ontological taxonomy of Zylińska²), however the nonhuman traces that it holds become apparent just from the nature of this field, which I would like to further observe. For a more specific reference point, I will bring in the example of the Hubble space telescope, whose work thus far has significantly changed not just astrophotography as we have known before, but the scientific discourse of astronomy as a whole³.

With that in mind, I would like to invite the reader to join me on a contemplative journey into what astronomical photography really is from our species' point of view. In a general understanding it is a medium primarily for scientific observation that employs a photographic apparatus to record outer space imagery. Physically able humans outside of the astronaut/cosmonaut community can most easily access this outer spatial perception through photography. Without it, our knowledge about the universe would be significantly more limited, as the invention of photography has allowed for the storing of visual data via the fixture of an image, while its ability for long-exposures enables us to capture interstellar phenomena over time.

In most cases, the documenting equipment (a telescopic camera) is located on our planet, usually operated directly (or indirectly from a computer) by the present professionals. Hubble (named after the American astronomer Edwin Powell Hubble), on the contrary, is the only telescope equipped with several cameras that resides in outer space. It orbits the Earth so that the atmosphere of our planet does not interfere with its perception, meaning that it can have a clearer view of the universe without the distorting effects of the air in the sky. Hubble was launched in 1990 and has been in service since then, so it can definitely be claimed to be one

of the most successful spatial instruments of NASA. The other unique feature of this telescope that makes it so valuable is its capacity to detect ultraviolet light - besides visible and infrared lightwaves - which is blocked by our atmosphere to protect our planetary ecology, so it can only be tracked in outer space.³⁻⁵

Hubble, predominantly accounted for as a photographic equipment in this essay is a technical tool for an extended human perception with the objective to make sense of our galactic surroundings. Instead of speculating on the 'why's of such development, I am more compelled to learn more about the 'what's and the 'how's. What is it that we look at when encountering an astronomical photograph taken by the Hubble space telescope, for example? How can we think of an infinite universe that we have no empirical relation to? My proposition is that as a communal entity, we, humans, could benefit from educating ourselves and each other more about our universe partly through astrophotography. What an astronomical perspective may bring us is not just to "introduce humility to the observer, as well a sense of belonging" as Zylinska notes corresponding to Fred Ritchin⁶, but a redefinition of our purpose as living organisms within a cosmic ecology. The particular nature of the galactic landscape is something that potentially no other photographic subject entails. I would note here, that a similar argument may be presented in regards to microscopic photography, however, in that scenario, the human agent of the process is still in the same spatial dimension (or at least on the same planet) as the recorded and enlarged organism.

From this angle, the art of photography is just as human as it is nonhuman, as every technical invention of our species, that despite of not requiring direct contact for its operations, was still built, is maintained, and can be prospectively destroyed by us. Photography, as such, equally bears human and nonhuman traces; it requires human agency at any point of its conception or interpretation to become part of the human culture, however, the materials may be non-living and its mechanics can operate outside of the laws of nature. As Zylinska extensively examines, the photographic practice holds a worldmaking attribute beyond its representational role, which can be accepted as the creative aspect of the medium⁷. In agreement with John Tagg⁸, she argues that life is something that is innate to photography, not only the obsession with mortality as inherited from the Victorian photographic canon. The construction of the world accredited to the technical and imaginative processes of photography have a potential to facilitate an approach where we can vision ourselves from outside and perhaps be faced with the

responsibility for life, or as Stewart Brand put it more poetically, for this “delicate jewel in vast immensities of hard-vacuum space”⁹.

Without going into the nitty-gritty of how astronomical images are constructed and manipulated by scientific professionals before being added to the public domain, I would like to remark that the astonishing colour schemes that are usually paired with the mesmerizing forms of galactic pictorialism (Figure 1), are actually enhanced by the work of said experts, who basically make these interstellar phenomena appear as they would in reality, if we were able to perceive the light waves that are emitted by them.^{3,5} Nonetheless, the degree of manipulation for visual appeal can be reasonably questioned, however, in the absence of such computational literacy our sensory capacities would fail us in untangling the gathered data from telescopic cameras to the extent where it would have any aesthetic value.

Aside from, or more precisely, in connection to photography's affiliation with life, another notion that it is essentially concerned with is time. Zylinska addresses this in a thorough analysis on the linear temporal flow that photography seemingly cuts into when capturing instances, but instead of just comprehending this as an interruption in the chronological flux, it may be regarded as an active mediator between present and past¹⁰. This idea is possibly the most viable in the genre of astrophotography, as the phenomenon of time in galactic measures is vastly overwhelming to our understanding. The unit of distance in astronomy is a light year, which is the distance that a light beam travels over the course of one year, when moving on a straight path. This is 9.46 trillion kilometers because the speed of light is currently recognised as the fastest velocity³. This means that when a telescope captures, for instance, a star that is three thousand light years away, then the state that we observe it from Earth now is how that star looked around 980 BCE. This delay of perceived time, due to the unfathomable distance that light has to travel before reaching us, results in the amazing opportunity we get a peek into such remote time that otherwise we would have no access to photographically. This distinct sense of temporal dimensions also implies that we can capture things that are non-existent anymore in their actual locations, so the light that stains our photosensitive plates or sensors, is so old that might as well be declared ancient¹¹. John Tagg refers to this fascinating discovery in his essay, 'Mindless Photography', as one of the phenomenas that has changed the relationship between humans and photography¹².

Fundamentally, all photography is nonhuman to the same extent as humans are nonhuman, which is what constitutes us as earthlings. After all, the elements we are made of almost exclusively originate from star debris, that is the scattered fragments from the explosion of dying stars. As much as we would like to claim our autonomous position within universal ecology, we are still only beings made of stardust¹³.

Illustration

Figure 1. M1: The Crab Nebula from Hubble. *Astronomy Picture of the Day: 2018 September 9*. Available from: <https://apod.nasa.gov/apod/ap180909.html> [Accessed 29th February 2020].

Explanation: This is the mess that is left when a star explodes. The Crab Nebula, the result of a supernova seen in 1054 AD, is filled with mysterious filaments. The filaments are not only tremendously complex, but appear to have less mass than expelled in the original supernova and a higher speed than expected from a free explosion. The featured image, taken by the Hubble Space Telescope, is presented in three colors chosen for scientific interest.

References

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8. Ibid., 61.

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