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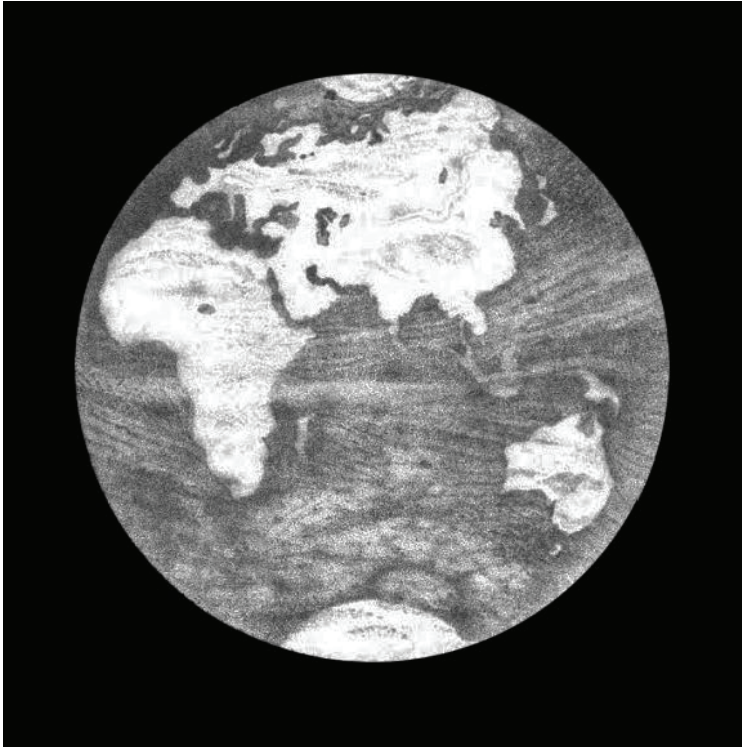
Sebastian V. Grevsmühl

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*The Earth as Seen From the
Moon* by Agnes Giberne
from *The Story of the Sun,
Moon, and Stars* (1898)

If we think of “planet Earth” today, many of the images that cross our mind’s eye are the spectacular visual outcomes of space exploration. To put it in other words, our Western, collective imagination of what we call “Earth” today is fundamentally structured by the visual. Yet the views of Earth as seen or imagined from space did not stay immutable over time, and instead have evolved considerably over the past two centuries. Indeed, according to philosopher Hans Blumenberg, whereas Westerners, when thinking of “planet Earth,” in the past imagined an artificial globe suspended in space, we think of Earth today mainly in terms of the visual outcomes of the large space programmes.¹ Although globes are still part of what may be called an “iconography of power” (allowing for the expression, for instance, of the global commercial ambitions of multinational corporations), globes were never really able to surpass mostly decorative or rhetorical functions. This is (at least in part) due to their insufficient scale, which proved in many cases not to be very useful in practice, and the substantial production costs that were in most cases far too high to allow globes to become objects of everyday use. As we all know today, it is representations drawn in the plane, i.e. maps, that have become the dominant, privileged visual mode to represent geographical knowledge of planet Earth. However, next to globes and maps, one particular visual mode stands out and has its very own history, a history that is tightly bound to aerial and space exploration: the figure of the terrestrial sphere of which I would like to propose in the following a very brief visual history.

Amongst the first images claiming to show Earth “as one would see it from outer space” is an engraving which is the frontispiece of an influential book in geology, published in 1834 by Henry De la Beche, a respected member of the Royal Society in London (Fig. 1). Several aspects make this image a remarkable contribution to early Earth views from space. First of all, Henry De la Beche decided to commence his geological treatise with a view that is normally reserved to astronomers. Indeed, Earth is shown here as a cosmic object, a planet floating in black space, clearly de-



_ Figure 1.
 "The Earth Supposed to
 be seen from Space", as
 imagined by Henry De la
 Beche as early as 1834.
 Source: Henry De la Beche,
*Researches in Theoretical
 Geology*, Knight, London
 1834, frontispiece.

taching itself from the dark background. Moreover, the Earth's atmosphere is also rendered visible through cloud bands which subtly mask landmasses and the world oceans. Finally, De la Beche insists on the rigorous scientific exactitude of this representation: Earth is drawn to scale and represented slightly flattened at the poles in order to support the (at the time) very popular thesis of its formerly fluid state. Considered together, all of these elements show that geology, which was at the beginning of the nineteenth century starting to become an autonomous scientific discipline,² And perhaps more importantly, the visual argument allowed scientists outside of astronomy to conceptualise planet Earth in global terms as a planet amongst planets and the visual realm, just as this frontispiece from Henry De la Beche, contributed in decisive ways to these new conceptualisations.

However, despite the popularity of the image in geology and outside of its field, this did not imply that astronomy would simply drop this important visual terrain. Indeed, quite the opposite was actually the case. With the rise of illustrated press and in particular popular science during the nineteenth century, one can identify a large number of visual examples staging spectacular representations of Earth views from space, often invoking novel and innovative elements. For instance, with the help of the inversion of the most classic astronomical perspective, many engravings and illustrations offered the curious reader a perspective of what imagined "Selenites", i.e. lunar inhabitants, would see from the lunar surface. One famous, very

early example (probably the first) is a hand drawn magic lantern slide, created in 1849 by Carpenter and Westley and entitled “Imaginary View of the Earth as Seen from the Moon” (Fig. 2). Astonishingly, the compendium that accompanied this early visual example had nothing at all to say on the striking appearance of Earth as a planet seen from outer space, with the oceans drawn in vivid blue colour and parts of the white continents veiled by cloud formations. Rather, the authors insisted on the foreground of the image, i.e. the supposedly rugged lunar surface, underlining in particular the absence of an atmosphere and water, and the rough topography which, according to Carpenter and Westley, was the outcome of “violent volcanic activity.”³

In his famous *Astronomie populaire*, Camille Flammarion successfully picked up on this visual tradition and offered in 1880 an engraving also picturing planet Earth as seen from the lunar surface, showing once again a mountainous lunar landscape dominating the picture’s foreground (Fig. 3). Here again, we find an important scientific ambition, just as in the two former examples: in trying to offer a highly “realistic” space view of our home planet, Flammarion pictured the Earth as a planet with an atmosphere, clearly distinguishable due to the austere, black background of outer space. This distinct element, present in all three examples, is important to note because it marks a break with another (much older) visual tradition where Earth is depicted as a simple globe, an artefact without atmosphere or any other signs of biospheric activity. Moreover, contrary to Carpenter and Westley, who had nothing to say in their *Compendium* on the Earth view, Flammarion noted

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Figure 2.
“Imaginary View of the Earth
as Seen from the Moon”
(1849), hand painted magic
lantern slide, from Carpenter
and Westley.
Source: Image reproduced
in Elsa de Smet, *Voir
l’Espace: Astronomie
populaire et science
populaire illustrée*, Presses
universitaires de Strasbourg,
Strasbourg 2018, p. 105.





Figure 3.
The Earth with a well visible
atmosphere as seen from
the rugged lunar surface and
imagined by Flammarion in
1880.

Source: Camille Flammarion,
Astronomie populaire, vol. 1,
Marpon et Flammarion, Paris
1880, p. 201).

that his imagined “Selenites” would be truly fascinated by the view of Earth from space, and he was equally convinced that these images would have a lasting impact on society. Indeed, especially during the second half of the nineteenth century, popular astronomers were very attached to the idea of educating the public, and in particular the belief that they could help “exercise a stimulating influence on even the simplest mind, especially on the growing youth.”⁴

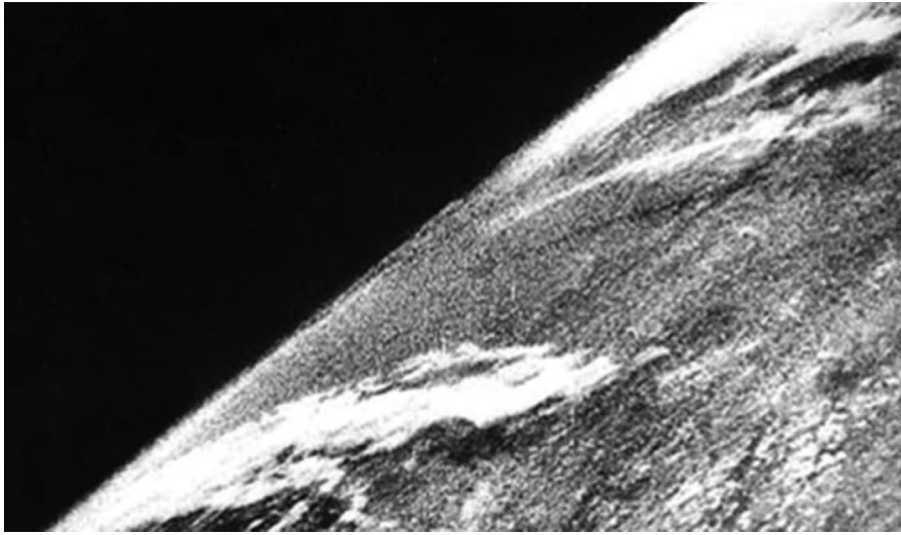
By the end of the nineteenth century, one thus finds many examples in Europe of popular astronomers mobilising this particular type of iconography during their public lectures and in their written work. One other iconic example for this

_ Figure 4.
A solar eclipse observed from the lunar surface, a view imagined by Meyer in 1892 for his talk “From the Earth to the Moon”.
Source: Max Wilhelm Meyer, *Illustrierter Leitfaden der Astronomie, Physik und Mikroskopie in Form eines Führers durch die Urania zu Berlin*, Paetel, Berlin 1892, p. 153.



_ Figure 5.
The Earth as a star amongst others by Rudaux in 1937.
Source: Lucien Rudaux, *Sur les autres mondes*, Larousse, Paris 1937, p. 1.





_ Figure 6.
The first known
documentary recording from
outer space, a photograph
realised with a V-2 rocket
on October 24, 1946 at
White Sands, New Mexico
(Johns Hopkins University
Applied Physics Laboratory).

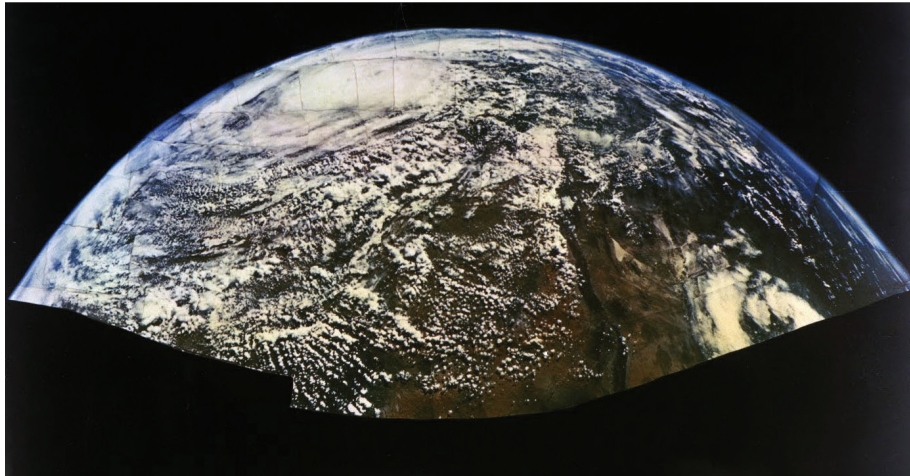
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educational mission is popular astronomer Wilhelm Meyer's view of Earth from the Moon (Fig 4), used in his show in Berlin at Urania entitled "From the Earth to the Moon". With the help of this view, Meyer aimed particularly at the uneducated spectators, inviting them to experience a solar eclipse "as seen from the Moon," with the Earth clearly identifiable on the rugged horizon.

Growing out of this tradition, the illustrator and astronomer Lucien Rudaux is a key figure that definitely stands out amongst science popularizers at the beginning of the twentieth century. His naturalist paintings, often infused with great theatricality, allowed a large public – at least with the help of their imagination – to experience and explore the distant worlds of outer space. Figure 5, showing planet Earth as a star amongst others, is a great example of his work on planetary landscapes, and it marks the beginning of nothing less than a new genre in painting, the art of depicting outer space landscapes. This new genre inspired the movement of Space Art where Rudaux's influence still can be felt today.⁵ Indeed, by transposing highly familiar perspectives (such as landscapes as seen by the human observer) into outer space, Lucien Rudaux successfully demystified the space experience, thus making it accessible to a large public. Moreover, as art historian Elsa De Smet has convincingly shown, the theatrical aspects of his work make him an important precursor of cinema, as his paintings and drawings contributed crucially to the development and establishment of a new aesthetic paradigm. The seventh art was greatly inspired by Rudaux's visual imaginary, and one finds during the post-war period, especially in science fiction movies, many visual connections to his seminal work, such as for instance in *Destination Moon* (George Pal, 1950) or in the widely celebrated *2001: A Space Odyssey* (Kubrick, 1968).

These views imagined and invented by astronomers, science popularizers, illustrators, and artists were rapidly confronted with the actual reality of space exploration, thus making increasing room for documentary recordings which gave birth to yet another new visual tradition. Indeed, aerial and space photography occupy a

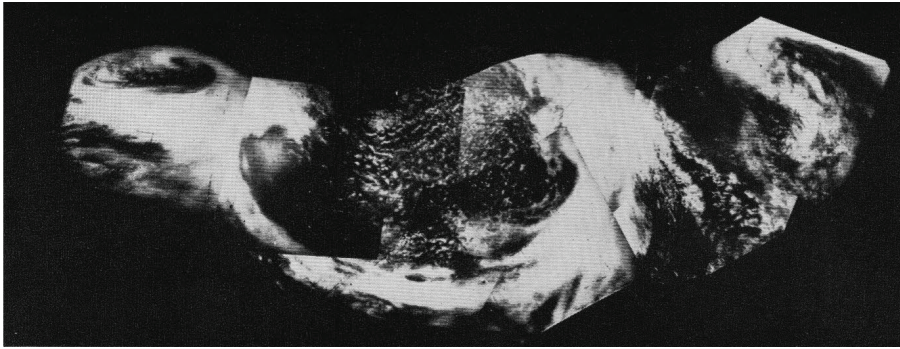
Figure 7. Composite image showing a tropical cyclone, published in colour on a double-page in "Life Magazine" in 1955 (US Naval Research Laboratory).



central place in the formation of a new terrestrial imaginary throughout the first decades after the Second World War. After almost fifty years of research on the possible fusion of photography on the one hand, and balloons, kites, rockets, and even pigeons on the other, aerial photography definitely moved out of an early experimental phase during the First World War, thus becoming a central visual planning aid within many military headquarters.⁶ During the Second World War, this function was further expanded and even industrialised.⁷ This strong strategic, military function of aerial and high-altitude photography maintained an absolutely central function throughout the Cold War. Even the birth of the space age, well before Sputnik, is closely connected to photographic images. Although a serendipitous outcome of early missile trajectory investigations, the first known Earth photograph taken “from space” (i.e. beyond the symbolic altitude of one hundred kilometres) was created in 1947 with the help of a captured German V-2 rocket (Fig. 6). Used during extensive scientific tests in the desert of New Mexico where university researchers and scientists were invited to join the military, the V-2 rockets and their successors, i.e. Aerobee rockets, were the first important vectors of early space photography.⁸

Although the first experiments were designed to better understand the movements and the exact trajectory of the missile through the atmosphere, the resulting photographs of Earth and its atmosphere quickly stirred the interest of many American meteorologists, and the photographs had a decisive impact on their community. Indeed, large meteorological systems, clearly visible on some of the early photographic mosaics and reproduced in many magazines and news outlets, showed the enormous potential of high-altitude photography (Fig. 7).

Harry Wexler of the US Weather Bureau lobbied from the early hours of space photography for the construction of a meteorological satellite as a “storm patrol.”⁹ This use was indeed confirmed only a few years later in 1960 when the TIROS satellite (Television Infrared Observation Satellite) started to make the first meteorological observations. The images produced by TIROS were not photographic images in a strict sense but rather television images, composed of five hundred lines transmit-



_ Figure 8.
Composite image composed
of several images from the
first meteorological satellite
TIROS-1 (NOAA image
spac0019).

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ted by radio signal to ground stations, visualised on TV screens and finally photographed in order to allow better handling and more easy distribution. Most of the TIROS images were not perpendicular but rather oblique images of the atmosphere favouring large atmospheric volumes, and it was these kind of images that became iconic in the public sphere. However, the poor image resolution of all of the TIROS images prevented them from profoundly revolutionizing meteorological practice in North America, in addition to the fact that a large meteorological ground station network was already available. Instead, these images had an imaginary and highly symbolic impact.¹⁰ After all, most of the TIROS images allowed for the placement of an almost banal, commonplace phenomenon – the Earth’s meteorological conditions – into an entirely new context. The overlay, in many cases, of these images with gridlines and political boundaries clearly helped for the interpretation and the large public distribution of these images, which circulated well beyond the scientific meteorological community (Fig. 8).

The 1960s were not only influenced by the first satellite programmes, but also by many manned space flights, i.e. the Mercury, Gemini and Apollo missions, that produced a steady, continuous and in many ways increasingly spectacular flow of widely circulated images. Although far less known, many unmanned space missions produced during the same period, all throughout the 1960s, spectacular Earth images, many of which were taken during missions to identify a potential Moon landing site in order to safely place the first American on the Moon, an objective that President Kennedy famously formulated as a key objective to be achieved before the end of the decade.¹¹

For example, the Lunar Orbiter I spacecraft took the first “Earthrise” image during one of those unmanned missions in 1966, thus making it an important precursor of the far better known Earthrise photograph of the Apollo 8 mission. The many individuals who were following the rapid American progress in lunar exploration closely at the time were certainly impressed by the advanced imaging capacities of NASA’s unmanned lunar spacecraft. Indeed, as the first interplanetary photographic laboratory, Lunar Orbiter I was carrying highly advanced imaging technology initially conceived for a top-secret military reconnaissance programme, and it thus was the result of an early, yet successful technology transfer from the military (the National Reconnaissance Office) to the civil domain (NASA).¹² The Lunar Orbiter I camera, fitted with two different lenses, could produce ima-

ges on 70mm black and white film; after each shot was taken it was developed and scanned, dot by dot, and the resulting luminosity signal transmitted to a tracking station on Earth, before being reconverted and distributed as individual 35mm black and white photographic prints. The result, after a cumbersome reversion process, was nonetheless truly remarkable, although one clearly could see that this was not a high-resolution photograph but a complex composite image composed of lines and dots. However, once NASA's press service reoriented the image to give the impression of an "Earthrise" (Fig. 9) observed from the Lunar surface, the image could actively contribute to the highly symbolic lunar landing objective. Indeed, in this first Earthrise image, planet Earth visualised in some detail in black and white, does not play the leading role. The main focus remains the Moon and the image thus effectively announces the spectacular manned missions that were to follow.

During one of those missions, the Apollo 8 mission of 1968, the astronaut William Anders took the far better-known photograph "Earthrise" (Fig. 10), which benefited from quite a different reading and reception, even though the image followed a very similar mode of cultural construction and staging. Presented, once again, as a perfect inversion of the classic landscape view, the change of the technological setting out of which the image was born modified its reception and interpretation considerably. The reader's attention is no longer drawn to the surface of the Moon, which appears in the colour photograph as a grey, inert and even hostile environment. Rather, the attention is now directed towards our blue planet, authenticated by

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Figure 9.
The first Earthrise image from Lunar Orbiter I, presented at a press conference in 1966 by the director of Langley Research Center (NASA image L66-10055).





photographic realism and accompanied by widely circulated astronaut interviews, thus effectively reinforcing the myth that we can see what is shown in the very same way as if we were in outer space. More importantly, planet Earth itself becomes the true discovery of space exploration and henceforth the Moon no longer appears to be a target of interest and even less a potentially habitable world.¹³

NASA's choice to present the image according to the conventions of central perspective may appear rather tri-

Figure 10. The famous Earthrise photograph realised by William Anders on December 24, 1968 (NASA image AS08-14-2383).

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vial and banal. However, this powerful gesture marks the starting point of the meticulously orchestrated staging of holistic images. The second icon of the Apollo missions, the so-called “Blue Marble” from 1972 (Fig. 11), thus represents only one of many steps in a long process of a search for an ideal visual form of planet Earth. The Blue Marble is certainly not the first image showing the “totality” of the terrestrial sphere from outer space (the ATS-III satellite, for instance, produced in 1967 an earlier version of a whole Earth image in 1967), nor is it the last one. Indeed, several programmes that followed the Apollo missions produced updated versions of the Blue Marble. However, where the Blue Marble from 1972 did make a true difference was in the fact that it actively contributed to the creation of what may be called a “visiotype”¹⁴. If we Westerners think of planet Earth, we often think precisely of that visual form.

Tangible proof that it is not exaggerated to speak of a visiotype when discussing whole Earth imagery are the many satellite programmes which have made it possible to produce more recently updated versions of the Blue Marble (Figs. 12 and 13). These “updates” generally include not only a far better spatial resolution but also multiple spheres – including now not only the Eastern but also the Western hemisphere – thus striving to overcome any former lack of completeness (since one can never see the whole Earth at a time, but only one hemisphere). In order to create these images, extensive use of imaging software and modelling had to be made. Although these images move further and further away from analog photography, they still simulate its aesthetic appearance. And contrary to common belief, imagination still plays a major role within this visual universe. To be sure, these are images that show (according to their creators) far more detail and acuteness in color, effectively reinforcing the myth of an Earth that has been completely surveyed and that may be entirely controlled. But these are also highly virtual views, fed with data from different moments in time and space, and with different instruments, recomposed in order to create the illusion of a coherent whole.

Figure 11.
The iconic Blue Marble
photograph from Apollo 17,
1972 (NASA image AS17-
148-22727).



For instance, in order to create the new version of the Blue Marble from 2002, the US Space Agency had to use visual data from different satellites in order to create the now famous satellite mosaic in several steps. Robert Simmon and Reto Stöckli, the data-visualizers and designers at NASA's Earth Observatory that created the new version of the Blue Marble from 2002, described in detail how they constructed step by step, layer by layer the iconic image that even ended up as standard lock screen on Apple's iPhone.¹⁵ Starting with a base map as background, Simmon and Stöckli successively added a blue ocean layer, a white and grey polar region and sea ice layer, a shading layer to better represent Earth's major topographical features, a cloud layer as composite image, stitched together out of views from different days and partially duplicated due to some lacking data, and finally a luminosity layer that allowed for the visualization of the city lights of large urban agglomerations.

There are thus important lessons to be learnt from this brief visual genealogy of whole Earth imagery that may serve as a brief conclusion. The first lesson would consist in asserting that in any whole Earth image, we can never see the whole Earth but only one hemisphere at a time. In this sense, the global is never a given, but has to be meticulously composed and assembled at every moment in history. Each image of planet Earth as seen or imagined from space – whether it is an engraving from the nineteenth century, or a photographic recording from the twentieth century, or even a digital image from the twenty-first century – participates actively in this globalization process. Imagination always was a central part of this story and despite the new “hyperrealism” and the supposed supreme accuracy of the latest versions of the Blue Marble, imagination still plays a fundamental role in this process. Today—and Simmon's and Stöckli's account is tangible proof of this—imagination thus still has a very strong grasp on how we represent, visualize and finally conceptualize planet Earth. So instead of thinking of imagination as category antithetical to reality we should rather accept the fact that it always was and always will be part and parcel of the production universe of scientific image making.



_ Figures 12a-b.
Eastern and Western
hemisphere of planet
Earth, created in
2001/2002 by NASA
Visible Earth Project
(NASA Visible Earth
Project).



_ Figures 13a-b.
The Suomi NPP satellite, in
orbit since 2011, provided
the data for this recent
update of the Blue Marble
two-hemispheric views in
2012 (NASA/GSFC Suomi
NPP Marble Collection).

Notes

- _1. Hans Blumenberg, *Die Vollzähligkeit der Sterne*, Suhrkamp, Frankfurt am Main 1997, p. 384.
- _2. Martin Rudwick, *Earth's Deep History*, Chicago University Press, Chicago 2014, p. 152.
- _3. Carpenter and Westley, *A Compendium on Astronomy Being a Concise Description of the Most Interesting Phenomena of the Heavens*, London 1849, p. 25.
- _4. Wilhelm Mayer, *Illustrierter Leitfaden der Astronomie, Physik und Mikroskopie in Form eines Führers durch die Urania zu Berlin*, Paetel, Berlin 1892, p. 152 (image on p. 153).
- _5. Elsa De Smet, *Le paysage spatial: de l'Ecole de Barbizon aux Pulp magazines*, "ReS Futuræ", 5 (2015), doi:10.4000/resf.639; Elsa De Smet, *Voir l'Espace*, Presses universitaires de Strasbourg, Strasbourg 2018.
- _6. See for instance: Sebastian Grevsmühl, *La Terre vue d'en haut: l'invention de l'environnement global*, Editions du Seuil, Paris 2014; Beaumont Newhall, *Airborne Camera*, Hastings House, New York 1969.
- _7. Constance Babington-Smith, *Evidence in Camera: The Story of Photographic Intelligence in World War II*, Chatto and Windus, London 1958.
- _8. See in particular the important work of: David DeVorkin, *Science with a Vengeance: How the Military Created the US Space Sciences After World War II*, Springer, New York 1992.

_9. Harry Wexler, *Observing the Weather from a Satellite Vehicle*, "Journal of the British Interplanetary Society", 7 (1954), p. 269.

_10. See especially: Mark Monmonier, *Air Apparent: How Meteorologists Learned to Map, Predict, and Dramatize Weather*, University of Chicago Press, Chicago 1999.

_11. Scans of the speech manuscript may be consulted online here: <http://www.jfklibrary.org/Asset-Viewer/Archives/JFKPOF-034-030.aspx> (last consulted January 11, 2019).

_12. Cargill Hall, *SAMOS to the Moon: The Clandestine Transfer of Reconnaissance Technology between Federal Agencies*, NRO History Office, Chantilly 2001.

_13. This "insight" would be confirmed once and for all only seven months later.

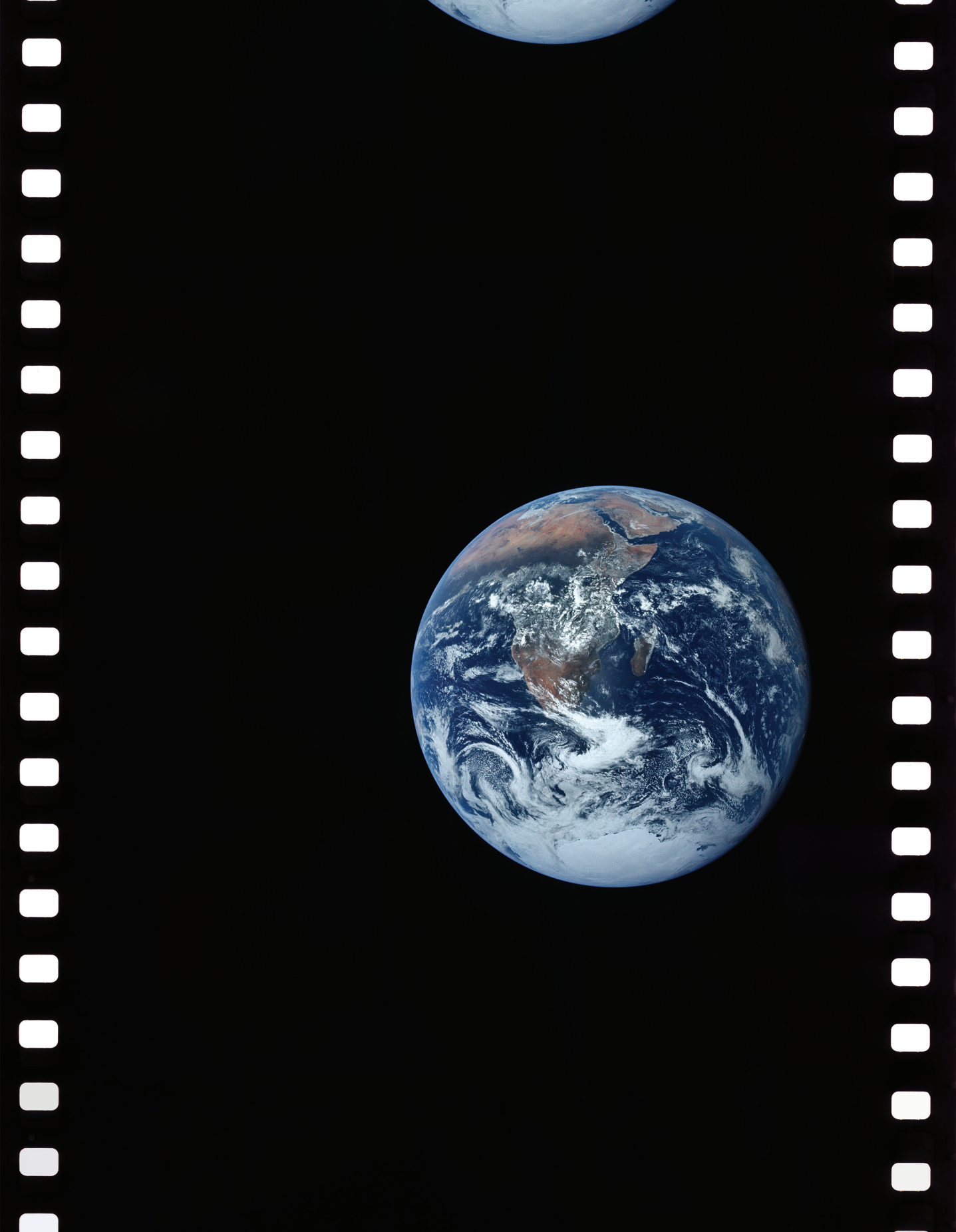
_14. In short, a visiotype is the visual equivalent of what Lippmann famously called in 1922 a stereotype. It describes the type of image that crosses your mind when we think of something specific. The visiotype concept was coined in Uwe Pörksen, *Weltmarkt der Bilder: Eine Philosophie der Visiotype*, Klett-Cotta, Stuttgart 1997. The concept may be compared with Lippmann's definition of stereotype in Walter Lippmann, *Public Opinion*, Harcourt, Brace and Company, New York 1922, p. 89.

_15. See: <https://earthobservatory.nasa.gov/blogs/elegantfigures/2011/10/06/crafting-the-blue-marble/> (last consulted January 11, 2019).

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Bibliography

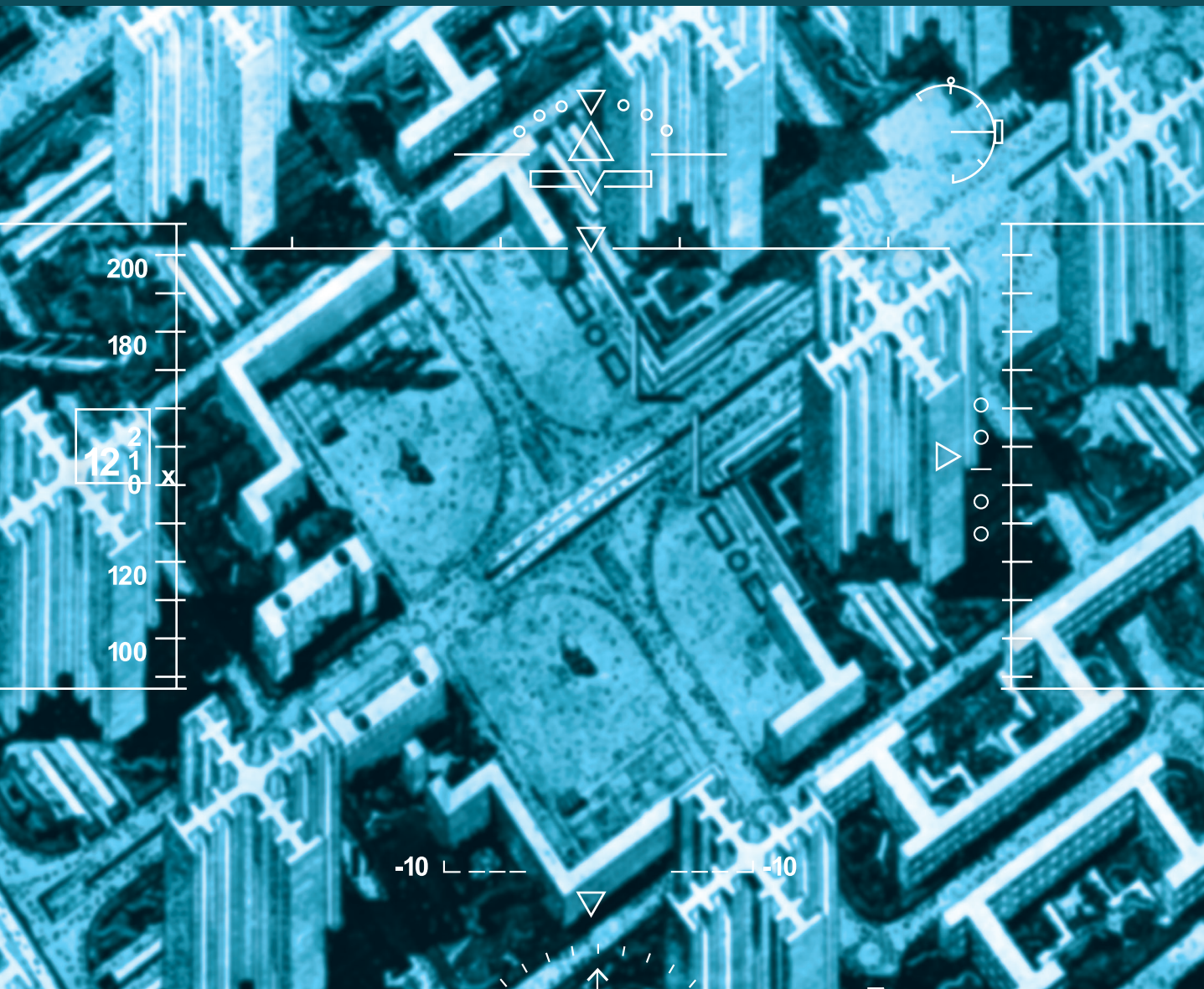
- Constance Babington-Smith, *Evidence in Camera: The Story of Photographic Intelligence in World War II*, Chatto and Windus, London 1958.
- Hans Blumenberg, *Die Vollzähligkeit der Sterne*, Suhrkamp, Frankfurt am Main 1997.
- Carpenter and Westley, *A Compendium on Astronomy Being a Concise Description of the Most Interesting Phenomena of the Heavens*, London 1849.
- Elsa De Smet, *Le paysage spatial: de l'Ecole de Barbizon aux Pulp magazines*, in "ReS Futuræ", 5 (2015), doi:10.4000/resf.639.
- Elsa De Smet, *Voir l'Espace*, Presses universitaires de Strasbourg, Strasbourg 2018.
- David DeVorkin, *Science with a Vengeance: How the Military Created the US Space Sciences After World War II*, Springer, New York 1992.
- Sebastian Grevsmühl, *La Terre vue d'en haut: l'invention de l'environnement global*, Editions du Seuil, Paris 2014.
- Cargill Hall, *SAMOS to the Moon: The Clandestine Transfer of Reconnaissance Technology between Federal Agencies*, NRO History Office, Chantilly 2001.
- Walter Lippmann, *Public Opinion*, Harcourt, Brace and Company, New York 1922.
- Wilhelm Mayer, *Illustrierter Leitfaden der Astronomie, Physik und Mikroskopie in Form eines Führers durch die Urania zu Berlin*, Paetel, Berlin 1892.
- Mark Monmonier, *Air Apparent: How Meteorologists Learned to Map, Predict, and Dramatize Weather*, University of Chicago Press, Chicago 1999.
- Beaumont Newhall, *Airborne Camera*, Hastings House, New York 1969.
- Uwe Pörksen, *Weltmarkt der Bilder: Eine Philosophie der Visiotype*, Klett-Cotta, Stuttgart 1997.
- Martin Rudwick, *Earth's Deep History*, Chicago University Press, Chicago 2014.
- Harry Wexler, *Observing the Weather from a Satellite Vehicle*, in "Journal of the British Interplanetary Society", 13 (1954), pp. 269-276.



Matteo Vegetti
(ed.)

The Aerial Turn

On the Conquest of the Air and its Impact
on the City, the Territory and the Planet



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