

Compositions

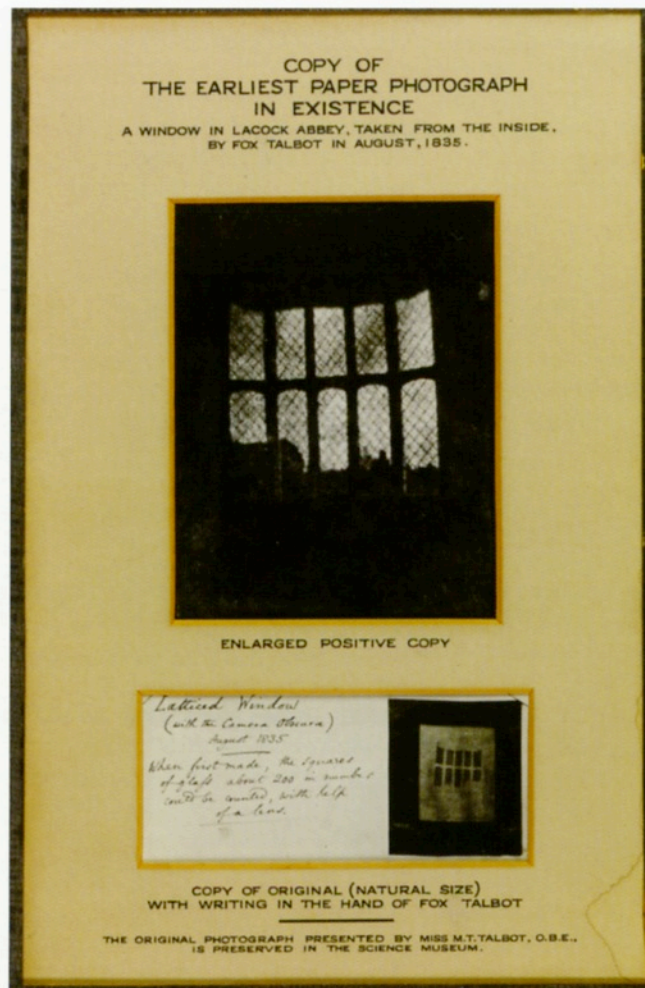
Photography: A Historical Perspective

Gilles Massot

The essay *In Praise of Shadows* published by Tanizaki Junichiro in 1933 discusses the Japanese aesthetic and its relation to the changes then taking place in Japanese society. These changes, induced by an evolution towards modernity, are perceived by Tanizaki to be the result of a questionable Western influence. His argument is mostly based on the opposition between a supposedly innate Japanese attraction for darkness and subtlety, and a similarly innate Western attraction for brightness and clarity. Light and shadow, he points out, are treated in remarkably different ways by their respective cinemas despite using the same technology, invented by the West. He then goes on to say "*If one then supposes that we had invented a photographic technique that was truly ours, one might wonder if it wouldn't have been better adapted to our skin tone, our appearance and way of life*". But is photography essentially "Western" as Tanizaki assumes? If anything, the way Japan eventually revolutionised the photographic scene 30 years after the publication of his book could be the hint of a possibly negative answer.

The fact remains however that photography emerged as an integral part of the scientific revolution that took place in 19th-century Europe. The ensuing technological advantage was turned into economic and political dominance over most of the world. In line with the cultural hegemony resulting from this state of affairs, the history of photography was first written from a Eurocentric point of view. This approach began to be reconsidered in the later part of the 20th century, but much still needs to be done on this particular matter. With the ever-widening sources of knowledge available to mankind to write its history, it is easier for us now to understand things in a broader perspective. If one looks at photography as a phenomenon and not just a technology, then the very origin of photography has to be traced back to 5th century BCE China with the first known description of the pinhole phenomenon by the philosopher Mozi¹. By observing the projection of an inverted image formed by rays of light entering a dark room through a "collecting place" (the pinhole), Mozi was unknowingly opening the Pandora box of the idea of an image made of/by light. It took one century for a similar observation to be made by Aristotle, and yet another thirteen centuries for the Persian scientist philosopher Al Hazen to understand that this principle was in fact the physical counterpart of physiological vision. Al Hazen applied this insight to build the first camera obscura and wrote sometime around 1015 the first treatise on optical science. Copies of it reached Europe where it laid the ground for another six centuries of research that would eventually result in the photographic camera. Even the invention of the name "photography", for a long time attributed to the British scientist John Herschel in 1839, is being reconsidered from a non-Eurocentric point of view. It is now established

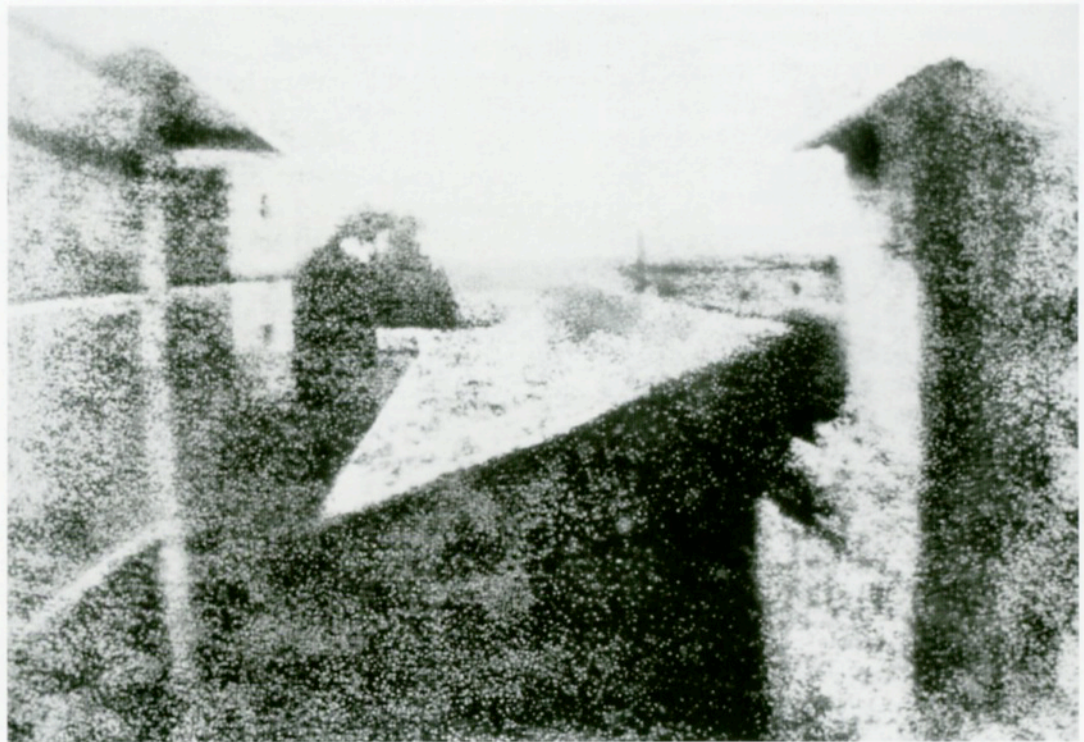
William Henry Fox Talbot,
Latticed Window taken with
Camera Obscura, 1835



that it first appeared in 1833, in Brazil, under the pen of Hercule Florence, who alone and cut away from the rest of the scientific world in a little town of Sao Paulo province, was searching for a way to fix the images produced by the camera obscura². So, from a wider historical and geographical perspective, Photography isn't absolutely "Western" as such. Rather it is very representative of humankind's search for similar ideals across centuries and cultural differences.

Then there is the question of "Why" photography³. And together with it the question of whether it was an invention or a discovery. It is said that from a purely scientific point of view photography could have existed at least one century earlier. The French writer Tiphaigne de La Roche gives an amazing description of the photographic concept in his book *Giphantie* published in 1760. This highly visionary book, which foresees powdered food among other things, gives the description of

a process in which a glass plate is coated with a viscous substance sensitive to light, exposed for a brief instant to the scene to be captured, and taken to a dark room and left to dry for an hour. So most steps of what will be the wet collodion process one century later is there... except for the camera! Yet the camera obscura had been a common drafting tool for a long time already. The difficulty seems to have been to conceptually merge the existing chemical and optical knowledge and make them work together. It is as if Grande Dame Photography⁴ was waiting for mankind to open the book of modernity to write her name on the first page. Which she almost did in 1800 with Thomas Wedgwood who managed to produce a photographic imprint in the form of a photogram by placing a few leaves over a piece of leather coated with silver nitrate⁵. He ran however into a major difficulty, one that beyond the scientific aspect raises the metaphysical question of what photography does to the fabric of the space-time continuum. The image vanished; the moment could not be preserved into the next. Wedgwood also thought of placing the sensitized support in a camera obscura, and here he ran into another problem: the low sensitivity of the chemicals used. The image didn't form. But for the first time, someone had thought of combining all the elements together. The rise of a new society, hungry for positivism, science and mechanism, would signal the need for a new type of image in which human intervention would be reduced to that of a mere operator, the search for a perfect mirror image of the world, as faithful and real as possible, one that owed nothing to interpretation. Or so was it hoped. For we now know that far from comforting our perception of a solid and tangible reality, photography was in fact going to propel us into the elusive imagery dimension which Plato had warned us about a long time ago⁶.



Nicéphore Niépce,
View from a Window at Gras,
1826

The initial motivations of the men who eventually made brought photography into existence] were all pretty much similar: *"to fix the images which nature offers, without the assistance of a draughtsman"*⁷. A colloquium entitled *Les Multiples Inventions de la Photographie*,⁸ held in 1988 to prepare the 150th anniversary of the presentation of the daguerreotype to the world, made it clear: the question of "who" invented photography, for a long time the topic of a contentious debate between France and England, doesn't really make sense anymore. The idea of a mechanical production of an image made by/of light was simply up in the air. People across Europe and as far as Brazil were searching for it at the same time, without knowing about one another's quests. The final photographic medium that eventually changed our perception of the world was the result of its many inventions, each one fulfilling an aspect of the larger picture.

It might come as a paradox but there is no existing photograph of the man who spent a good part of his life and his entire fortune to produce the first known visually preserved moment in time. Born in 1765, Nicéphore Niépce passed away in 1833, a little less than 10 years before the technical improvements that would allow photographic portraiture. A well-off gentleman farmer typical of his time, Niépce experimented with science in the seclusion of his estate. In 1816, he embarked on a search for a mechanical means of production of images that would last till the end of his life. He first experimented with the reaction of silver chloride to light, known since the Schulze experiment in 1727, and managed to obtain an image in the camera obscura. He ran however into the same problem as Wedgwood, the fixing of the reaction. He was also highly disappointed by the negative image that had formed. He then opted for bitumen of Judea, which has the property to whiten and harden when exposed to light. By dissolving the unexposed part of the image with essence of lavender to render the shadows, he produced a successful copy of an engraving in 1826⁹ and shortly after came to a decisive breakthrough with a view of his estate taken from the window of his study¹⁰. Entitled *View from a Window at Gras*, the original image of bitumen embedded on a pewter plate is actually difficult to see. It is nowadays mostly known through a high contrast reproduction that shows the hazy silhouettes of buildings on both sides of the image and the distant countryside in the centre. Interestingly enough, and although Niépce kept thorough records of his research, there are no traces from his own hand of how long the exposure took. Because the sun lights up both facades on each side, it is estimated that it must have been around 8 hours.

Niépce called his invention *Héliographie*, from the Greek “sun writing” and there is indeed little in it that will make photography as we know it, except precisely the concept of a visually preserved moment in time, a phenomenon that will change human perception of time and space. It is difficult to fathom what truly happened on that day when Reality in the bodily form of Niépce could at long last look at its own self with the image of a moment that had slid into the next moment. But it must have liked it a lot, because this marked the birth of a movement that quickly speeded up into an orgy of light-made images that eventually resulted in the infocom society we live in today, a movement that I proposed to call the Constant Self-recording Mode in 2004¹¹. Photography was born with steam engine and telegraph and together they changed the world, way before electricity started doing so. Steam became explosion, and the principles of telegraphy and photography evolved to become active elements of today’s World Wide Web. In fact light-made images (even paintings have to be photographed to be on the web) are what make this epitome of the infocom society so attractive and entertaining. Indeed much more could be said to posit the *View from a Window at Gras* as a decisive threshold of modernity.

In 1829, Niépce entered in a partnership with Louis Jacques Mandé Daguerre, a successful Parisian painter of humble origin. The collaboration wasn’t an easy one and only after Niépce’s death did Daguerre manage to bring convincing improvements to *Héliographie*. These improvements consisted in the use of a polished silver plate, sensitized with dark iodine fumes that made the shadows of the image. The development of the highlights in the latent image was achieved with fumes of mercury. A simple solution of table salt allowed the reaction to be stopped. The images obtained by the process to which the man gave his name were stunningly sharp and detailed. The ideal of a perfect mirror image of the world had at long last become reality. So much so that Daguerre saw the idea of taking out a patent on his invention as unrealistic because *“as soon as (the process) will be known, everyone will be able to use it. The most maladroit person will be able to draw as well as the most experienced artist. It is therefore necessary for this process to either belong to everyone, or remain unknown”*¹². With the help of his Parisian contacts, Daguerre convinced the scientist and politician Arago to secure the assistance of the French government for his invention in return for life-long pensions granted to him and Niépce’s son. On 19 August 1839, Arago presented the daguerreotype as a gift of France to the world in a historical joint meeting of the Academies of Fine Arts and Sciences.



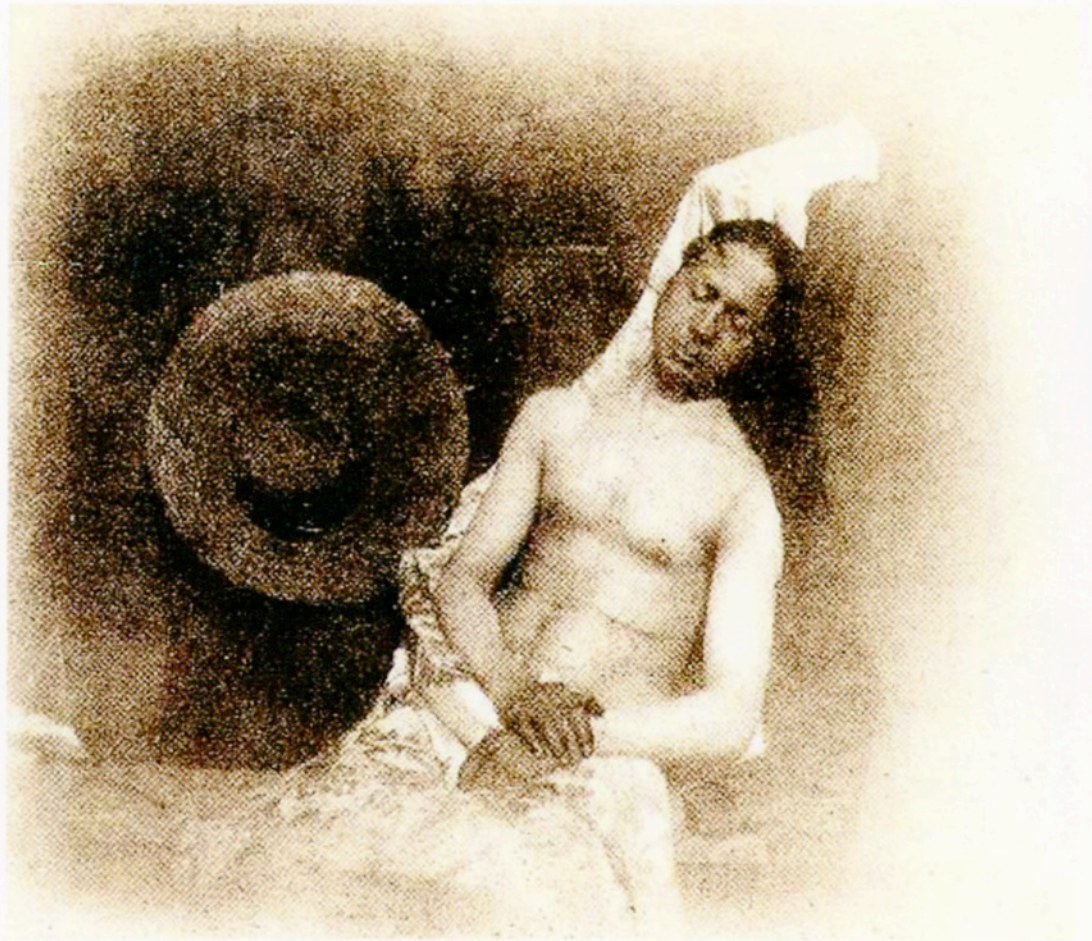
Louis Daguerre,
*View of the Boulevard
du Temple*, 1839

Roger Fenton,
The Valley of Death, 1855



“salted paper print” as the technique eventually came to be called¹⁷, was again in stark opposition to the free-for-all daguerreotype. The use of calotype remained the domain of professional photographers and rich amateurs who enjoyed the artistic qualities of paper prints. The craze for daguerreotype focused on portraiture and thus questioned the perception of time. The reproducible quality of the calotype made it the perfect medium for the production of travel photography portfolios. These would extend the perception of space from the drawing room to the world.

By 1851, the competition between the two techniques was resolved by a new process that combined the sharpness and free usage of daguerreotype with the reproducibility of the calotype. The unpatented collodion wet plate developed by Frederick Scott Archer took its name from the fact that everything, from preparation of the glass plate to exposure to development, had to be done while the solution of collodion¹⁸ that contained the silver nitrate was still humid. This implied that photographers had to travel with a complete cumbersome darkroom wherever they wanted to work. But the results were beautiful and the wet plate era turned out to be paradoxically a golden age for landscape photography, producing stunning images of places that had hardly ever been reached before. Besides increasingly making the world a smaller place, two images of that period are highly representative of the ever-growing influence of photography over human society. The first one, entitled *The Valley of Death*, was taken in 1855 by Roger Fenton, a professional photographer commissioned by a publisher to document the Crimean War with the backing of the British government. The image is part of the first comprehensive documentation of a political event, and Fenton's mission was to bring back images that would cast a positive light on this war. Despite its title, *The Valley of Death* doesn't bear any signs of physical death. In fact one version of it shows cannon balls that are not present in another one. Right from its inception news photography was raising questions of truth and manipulation, a debate still running deep in the usage of images as sources of information. The second is the portrait of the Meiji emperor Mutsuhito taken by Uchida Kyuichi in 1872. Prior to this, the *carte de visite* format invented by Disdéri in 1854 and the resulting craze that swept the world until



Hippolyte Bayard,
*Self-portrait as a Drowned
 Man*, 1840

from it to make them float into a continuum of their own, one in which the four dimensions have collapsed into three by turning depth into the optical illusion of perspective. In doing so, photography engaged in a process by which *images tend to become autonomous, independent of the real world, turning into worlds of their own*²⁰. It took about a century and a half for the theory of photography to come to this conclusion. One man however had foretold from the very beginning the blurring of boundaries between reality and fiction that photography would bring about.

Hippolyte Bayard was a civil servant who upon hearing about the first announcement concerning the daguerreotype²¹ felt that he too had something to contribute to this mysterious invention. With no prior scientific training he managed nevertheless to quickly come up with a technique of his own that took the form of a positive direct image like the daguerreotype, albeit on paper like the calotype. Bayard was thus in some way opening a middle path. Thinking that he would be able to share Daguerre's rising fame, he presented his invention to Arago, who felt however that two men for the same invention was one too many. Disappointed by the rejection of his unnamed invention, Bayard held the first photographic exhibition on July 14, 1839. Finally when by October 1840 it had become obvious that public attention had focused on the daguerreotype alone, he staged as a protest the first known fictional photograph.

Bayard's contribution to the history of art and not just photography is hardly ever presented for what I believe it to really be. The *Self-portrait as a Drowned Man* might even be at times described as "comic"²². It shows a naked man lying with closed eyes, his darkened hands resting on the blanket covering the lower part of his body. It is supposed to be the corpse of Bayard himself, photographed after committing suicide out of desperation.

A text at the back of the image explains how the darkened hands show that the body had already begun to decay before being pulled out of the water. Comic it might be to some, but this is the first photographic image in which Reality is purposely pretending to be something else than what it really is. Besides raising the question of what is this "reality" that photography is capturing, Bayard was also engaging the topics of protest, body, self and transience. With the exception of gender, Bayard was touching on most of the topics found in the photographic tableaux that finally made photography part of High Art in the late 20th century. With one single image, Bayard was inventing not only artistic photography but also photographic art.

And what about colour? If anything, the development of colour photography was an even more complex quest. It started with Newton's theory of colours in the 18th century and found its first demonstration in 1861 with J. Clerk Maxwell. As part of his research on the electromagnetic nature of light, the British scientist conducted in 1861 an experiment in which a tartan bow was photographed through red, blue and green filters. Positive reproductions on glass were then projected through their respective filters to form a single image in which some crude form of colours resulting from the overlapping of the three monochrome images could be seen. To people familiar with Photoshop today, the mention of the 3 positive black and white images resulting in millions of colours on the screen will sound very familiar. So, in another meaningful shortcut, the first colour photograph was based on the RGB colour channels concept through which most photographs are seen today.

In 1868, Ducas du Hauron published a seminal book, filled with ideas that laid the ground for most of the researches on colour conducted thereafter. The French scientist developed variations of the RGB combination of coloured light known as "the additive method" used today in electronic screens, while proposing different versions of a subtractive method which would eventually result in the colour photographic film combining layers of pigments, as well as colour printing. The complexity and lack of reliability of the methods however made the age of colour photography still a long way away. The Lumière Brothers marketed in 1907 the autochrome that produced beautiful results. But the shots came in the form of transparency that could not be reproduced. Although commercially viable, the autochrome remained restricted to keen amateur use until the 1920s by which time the Technicolor method had been developed by Hollywood. It sent the signal that after a century of seeing the world in black and white people were eagerly waiting for colour to happen. This became finally technically possible in the 1930s with the invention of chromogenic process²³ by Rudolf Fischer. However, only after World War II did the technologies developed by both Kodak and Agfa finally reach the public.

The earliest colour photograph displayed in the Singapore National Museum Photographic Gallery is dated 1973. This isn't so much because Singapore was late in being exposed to colour photography but rather because extensive public use of expensive colour films didn't really happen until the 1960s. Interestingly enough, the technology that had taken so long to develop was going to be made almost obsolete within 30 years. Japanese technology had already revolutionised photography in the 1960s and 70s. In 1981, Sony opened up a whole new world for the medium by producing the first electronic camera displaying magnetic images on a TV screen. This was followed by Kodak's first digital photographic system in 1992, using a Nikon body. The launch of the first mobile phone with a built-in digital camera by Sharp Corporation in 2000 truly signified the entrance of photography into the 21st century. Tanizaki's request for a Japanese invention of photography had been somehow answered.

The question has been raised whether the digital status of the thousands of images loaded every single minute on the World Wide Web still makes them true "photographs"²⁴. These images have lost all physical connection with the referent that "sticks" to the image through the energetic exchange of the analogue process²⁵, a connection regarded until not too

long ago in the theoretical debate as possibly the main characteristic of photography²⁶. Instead, the information carried by light is turned into a virtual mathematical language that dematerialises the referent and only restores an illusion of it, an illusion that in most cases will never be given tangibility in a printed form. But the point is that the initial stage of this digital image still follows exactly the principle that made the *View from a Window at Gras* the first visually preserved moment in time. And if one takes the linguistic roots of the word “photo-graphy”, one could argue that a photograph in its digital form is more than ever a writing (of mathematical language) made of/by light. In fact, it is as if the negative-positive process regarded as another characteristic of “true” photography had been only an intermediary stage of the medium on its way to the most efficient possible form of the Constant Self-recording Mode. One could even argue to some extent that digital photography has taken the medium back to what it was in the beginning. The image shows as a direct positive, as in the case of the daguerreotype. And in the design of many cameras, including mobile phones, the eye is not looking at the scene through a viewfinder anymore, but sees it projected in real time onto a screen as in the case of the original camera obscura. It is back to square one, albeit in a faster, easier, lighter and more automatic way. Precisely what photography was supposed to do for the representation of the world when it was first announced by Arago in 1839.

Modern perception of reality started shaping up the moment the world could look at itself as if in a mirror, but in a different time and space. Since then, and despite the initial illusion of perfect realism, photography has persistently contributed to *the discovery of how little real is reality, in association to the invention of other realities*²⁷. Much more than a rupture in the flow of its identity, digital photography should be regarded as the latest instalment of that process. The digital dematerialisation of the referent is in fact the clearest expression so far of what photography has been doing from day one: turning the real into the virtual while recording it. As you are reading these last sentences, thousands more images are uploaded on the web, the world looking at itself existing, the Constant Self-recording Mode in full swing, Narcissus fallen in the Facebook pond. We could say that we have come to a rough idea of what photography is doing. The question now would seem to be: what are photographs doing? From outer space to the walls of the cities, from the packet of cereals on the breakfast table to the screen of our mobile phones, and besides the semiotic aspect on which theory of photography mostly focus, what are photographs actually doing to the world and the biological entities producing them?

Notes

- 1 Needham, Joseph (1986). *Science and Civilization in China: Volume 4, Physics and Physical Technology, Part 1, Physics*. Taipei: Caves Books Ltd. p. 82.
- 2 Boris Kossoy, “Hercules Florence, l’Inventeur en Exil”, *Les Multiples Inventions de la Photographie*, 1988, pg 75.
- 3 Frizot Michel, *A New History of Photography*, 1998, p. 15.
- 4 Photographie has a feminine gender in French, the language in which the word was first devised by Hercule Florence.
- 5 Experiments conducted with Humphry Davy and published in 1802.
- 6 Plato’s allegory of the cave is generally regarded as an early if hazy conceptualisation of photography.
- 7 In an initial legal agreement, drawn up by Niépce and Daguerre. Marien Mary Warner, *Photography, a Cultural History*, 2006, p. 23.
- 8 Cerisy La Salle, 29 September-1 October 1988, Mission du Patrimoine Photographique.
- 9 Cardinal D’Amboise, Musée Nicéphore Niépce, Chalon sur Saône.
- 10 *Point de Vue d’une Fenêtre du Gras*, Gernsheim Collection, University of Texas at Austin.

- 11 This terminology was first use in the context of a lecture on the history of photography for Fine Arts students in LASALLE College of the Arts
- 12 *La Naissance de l'Idée de Photographie*, François Brunet, 2000
- 13 Daguerreotype was still used in America well into the 1860s at a time when it had almost disappeared in Europe.
- 14 Daguerre in a printed prospectus of 1838 aiming to find investors for his invention.
- 15 Baudelaire in *Salon de 1859. Le Public Moderne et la Photographie*.
- 16 Herschel experimented with hyposulfite of soda in 1819 and discovered that it could dissolve silver salts.
- 17 Although fixing was done with hypo, the process still involved the use of table salt at a different stage of the preparation of the paper.
- 18 A solution of gun cotton, dissolved in alcohol or ether initially used as surgical dressing.
- 19 1826 *View from a Window at Gras* by Niépce, 1835 *Latticed Window taken with Camera Obscura* by Talbot, 1839 *View of the Boulevard du Temple* by Daguerre used by Arago to present the invention during the historical meeting of 19 August 1839.
- 20 André Rouillé, *La Photographie*, 2005, p. 86.
- 21 An intriguing and sensational announcement was first made in January 1839.
- 22 Marien *Photography, a Cultural History* p. 15.
- 23 Each of the cyan, magenta and yellow layer of the film is processed in a bath that do not act on the other layers.
- 24 Rouillé in *La Photographie* among others.
- 25 Light doesn't just bounce off the subject, it also exchanges electrons in the process of doing so. See *QED, The Strange Theory of Light and Matter* by Richard P. Feynman
- 26 Photography as a completely real representation of the world as in the "what was" of Roland Barthes and the theories on semiotics inspired by Charles S. Pierce.
- 27 Jean François Lyotard, *Qu'est-ce que le post-modernisme* in catalogue of the exhibition *L'époque, la mode, la morale, la passion*, 1987.