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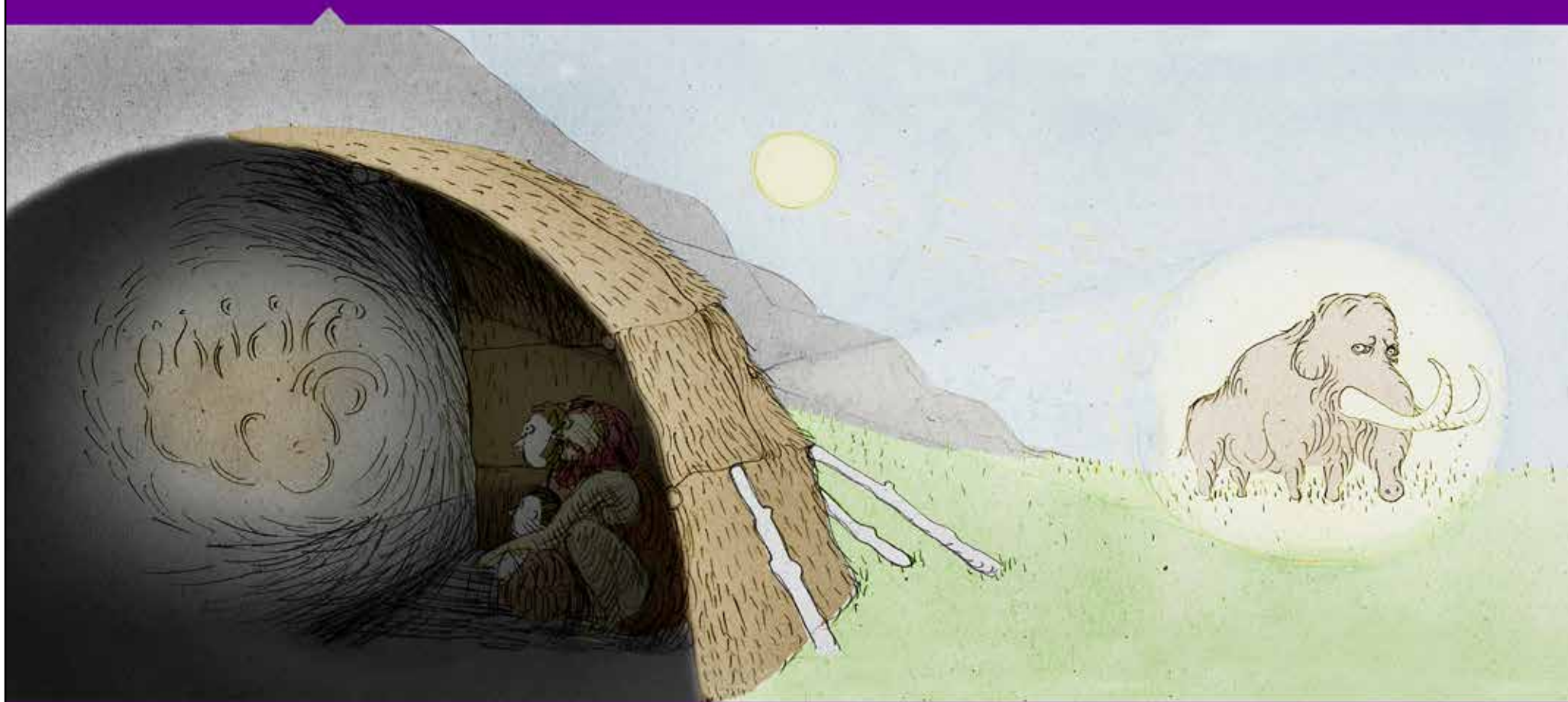


Photo for Media, the Beginning

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INTRODUCTION

This compendium is the first in a series intended for, but not limited to, students attending the course Photo for Media at Volda University College.

The intention of the series is to provide basic information for media students on what photography for media once was, what it is now and what it may become. I have chosen to start with the beginning. Other themes will follow.

The information presented is rudimentary, of course, since the topic is vast.

It will probably be erroneous in parts, due to my limited knowledge.

For this I apologize.

The verbal part of the text is cut short in favour of the visual content. Extra information has been placed under Notes, when I have seen that as necessary or, in some cases, just interesting. References and links to sources are also placed here, for each page. At the very end there is a list of literature I have studied and can recommend for further reading.

The language used is my own version of English, as practiced in dialogue with a young, international audience. For this I feel less inclined to apologize. It is part of who I am and it seems to be functioning acceptably well in most cases. My friend Howard Medland has kindly corrected the worst mistakes.

I occasionally voice opinions of my own. They may be challenged.

Response in any form; correction, praise or criticism would be appreciated.

Volda, December 2017

Gaute Hareide

The front page picture is an artist's impression of how the world's first photographic experience could have happened. Possibly. A very long time ago.

Artist: Trygve Selnes Nielsen

The history of photography is short, reaching back only to 1839 according to most scholars. It is also very long, according to some others, since it is possible to claim that photography is just a part of vision.

In order to get a full understanding of photography, we need to understand vision, and vice versa. Recent development and research has made it clear that we still have more to learn about this, to us, so important sense of sight.

The history of the invention of photography is also long, since it is not one, but many inventions and discoveries are still going on.

In this little text I have focused on how light can draw images and how these images can be preserved, and what use we may have of knowledge in this field.

It starts with the beginning, as I see it, and ends, in this series, about now. Much of this compendium follows the reign of Queen Victoria, coincidentally. Technical changes during her time were considerable, and she enjoyed them. Later changes have also been considerable and we have not yet seen the end.

I have restrained myself from focusing on lenses and cameras in this compendium, even if I do love these things for what they are and what they do. These things will be looked at later.

In my opinion, the ground-breaking inventions during the nineteenth century came within chemistry and printing techniques, and I have tried to select and present an overview of how these developments were used and what effect they had on society.

Photography is one of the most important inventions man has ever made (if we can call it an invention, see above), and the use of photography has changed civilisation more than most of us realize.

This series is an attempt to illuminate some of the what's and how's within this area of development, with a particular focus on photography's role in media.

Considering today's situation, the start of that was surprisingly late and slow.

Photography means “light-drawing”. All photographs are drawn by light, or more precisely; by radiation able to make an impression on photosensitive material.

This means that as long as there is the faintest amount of light present, there will be images all around us. Normally, we cannot see them.

To illustrate this fundamental fact, I like to start new photo-classes by stating that light reflected from my body, right then and there, is creating an image of me on the nearby wall.

The students respond to this statement with some degree of astonishment, basically along the line of “Is the Professor Mad?” After briefly acknowledging the conflict my statement may have caused between my own authority and the authority of their own eyes, I explain that the image cannot be seen because there is not just one, but many. To be precise, there is an infinite number of images of me and them and all other things in the classroom, blending into a soft fusion of reflected light.

To observe just the one image of me, we have to isolate it from the rest by screening it off from all incoming light top, bottom, front, back and sides, with the exclusion of one tiny hole on the side facing me. A box built like this is referred to as a “pinhole camera”.

Light reflected from my body will now be projected through that hole onto the wall as before, but through that hole only. Now that one, inverted image of the elderly schoolteacher should be visible to anyone inside the screened-off area, if this theory of the pinhole camera is correct.

By introducing a convex lens, the opening may be made wider, letting more light in and producing a brighter image.

The students are now invited to study the frosted screen of an old Speed Graphic press camera mounted on a tripod at the back of the classroom, to see for themselves that the theory is correct. Until now, the result has been in the affirmative.

Ibn al-Haytham

The theory of the pinhole camera was introduced by al-Hasan Ibn al-Hasan Ibn al-Haytham from Basra; Iraq, in his epistle “On the Shape of the Eclipse” presumably written during the last decade of the first millennium AD. The theory was expanded in his major work on optics, published some years later, where he proves that light moves in straight lines from light sources and reflective objects.

Ibn al-Haytham, later to become *Abu Ali* al-Hasan, is recognized as our first experimenting scientist, and his theory on light is indisputable to this day.

He never, however, mentioned the camera’s image-producing qualities. This may be due to religious or political considerations, which in Cairo at the time would be one and the same, or it might simply be a matter outside his point of focus. He did mention images, but apart from commenting on the illusion of depth in hair painted on a flat surface he seemed little interested in pictures.

Observations attributed to Aristotle and other Greeks have been seen by some as early descriptions of the camera, and Ibn al-Haytham’s work is indeed based on these, but Antiquity never had a full understanding of or a defined theory on this matter.

Mozi

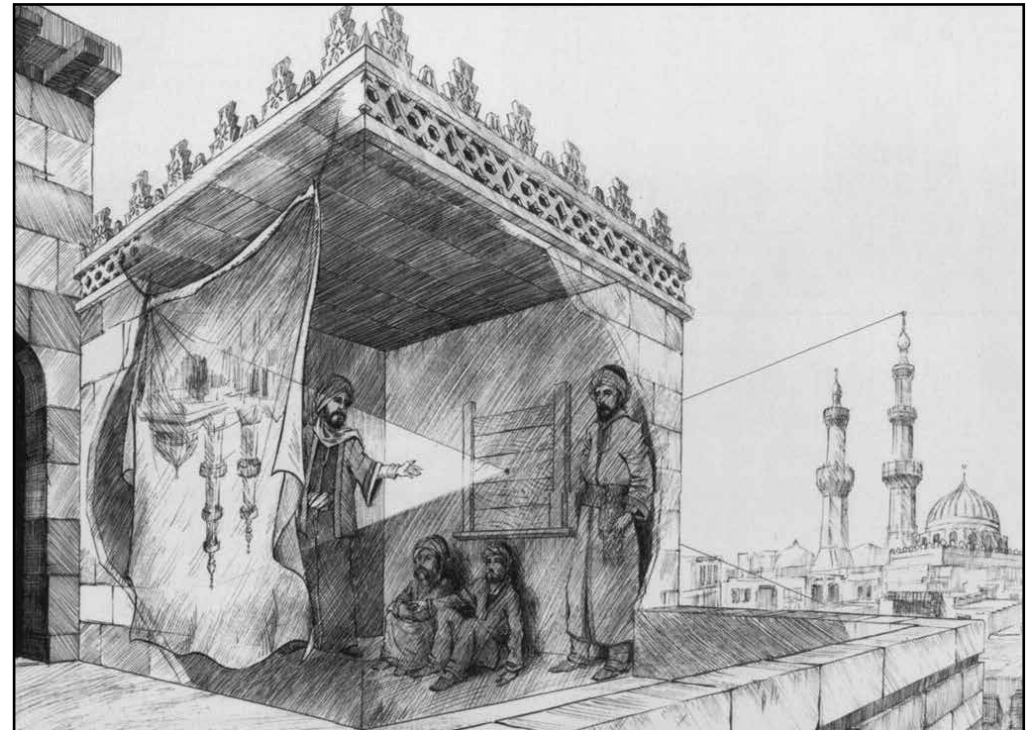
The oldest surviving comment on the image-producing quality of the pinhole camera, or the “pinhole phenomenon” as we may call it, is attributed to the Chinese philosopher Mozi (470-391BC) who also concluded that the effect was due to light travelling in straight lines, as it was definitely proven by Ibn al-Haytham several centuries later.

We may however assume that the phenomenon has been widely known to mankind for a very long time, maybe even before our own species of mankind entered the scene.



Abu Ali al-Hasan Ibn al-Hasan Ibn al-Haytham, above depicted as artistic impression on an Iraqi 10 000 dinar banknote.

Below another artistic fantasy (artist unknown) of the pinhole camera principle. There is no indication that such a demonstration was ever made by Ibn al-Haytham.



Palaeolithic times.

The observation of the pinhole camera phenomenon is possibly as old as the invention of the artificial cave, and consequently older than modern man.

We have indications from archaeological finds that people as far back as Homo Habilis made artificial caves, also known as tents; by the use of wooden framework and animal hides. We also know that people at least as far back as the Neanderthals had skills in preparing animal hides.

Consequently, as far back as between 100 000 and 1 000 000 years ago people may have used tents of animal hides with the fur removed, with spear holes down to one centimetre in diameter or less, and with some hides of a light brown or even near white colour. Albino animals existed then as they do now.

There would be rather few of these tents at one give moment, given that the number of people on the planet was considerably smaller than today. Still, it is hard to imagine that given these conditions over such a huge span of time, the phenomenon of the pinhole camera never occurred. Elements illuminated by the sun outside must have projected images of themselves onto the tent walls inside at numerous times, as they still do today when the conditions are right. It is equally clear that this phenomenon must have been observed, then as now.

It is conceivable that the human concept of making images, the one thing that really separates us from other species, may have started this way.

It is also conceivable that the phenomenon may have been seen as magical, and that the connection between an animal outside the tent and the projected image of the animal inside the tent was also seen as magical. That this magic might be inverted, namely that an image of an animal inside a cave could cause a real animal to appear outside the cave would in such case be quite logical.

If so, the pinhole camera is not just one of man's oldest discoveries, it may also have started both Art and Religion.

That is quite an interesting thought, is it not?



Indications of a tent structure dating back more than 150 000 years have been found in the Grotte du Lazaret near Nice, in France. Wooden framework like this, covered with animal hides, measuring a total of 11 by 3.5 meters, would have proved ample possibility for a pinhole camera. Similar and older indications are found elsewhere in Europe and Africa. That pinhole phenomenon in such tents might have started Man's urge for images, like the ones from Lascaux below, is of course speculation without evidence. But it is possible.

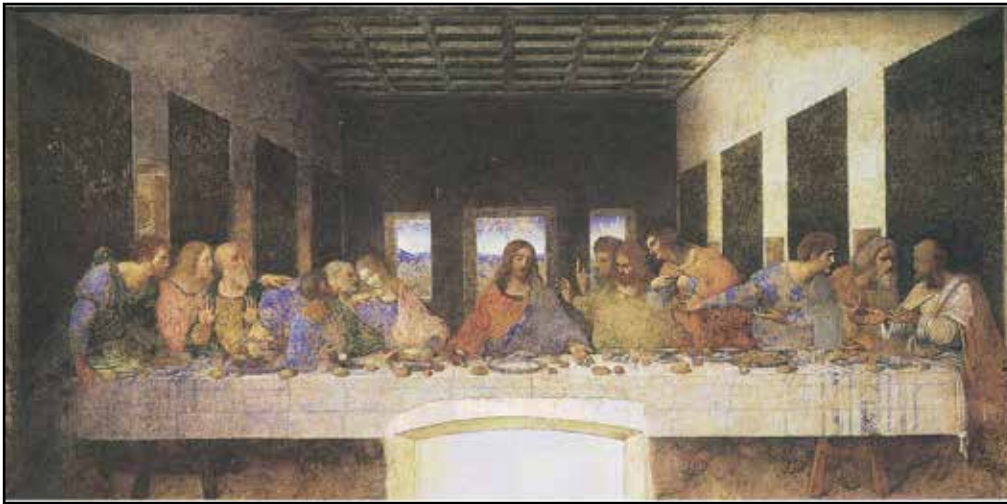
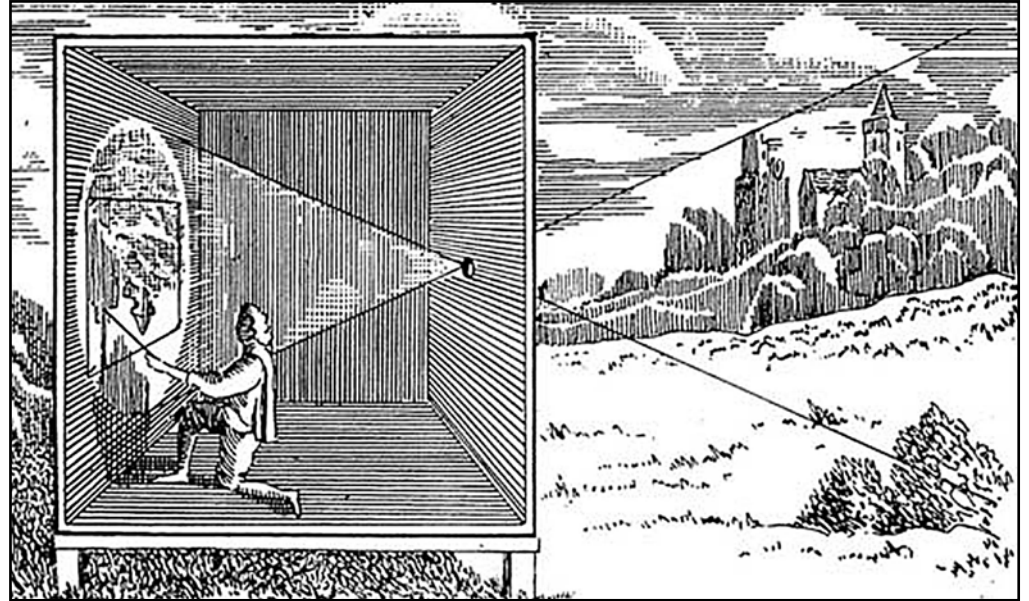


The camera as a tool.

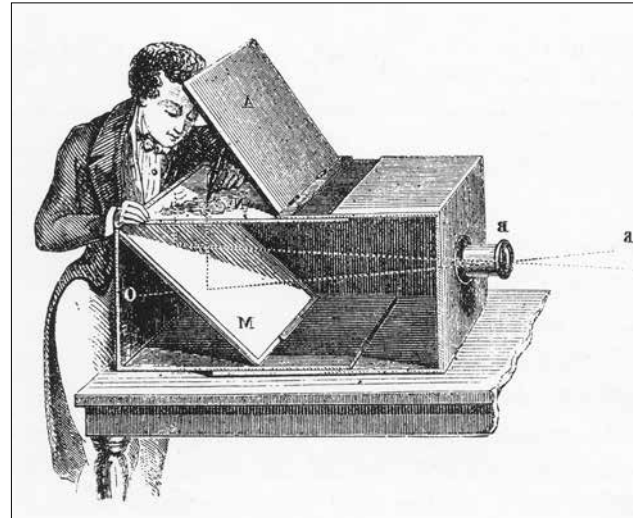
Widespread use of the camera for image-making started after Ibn al-Haytham's works (under his Latinized name Alhazen) become known in Europe during the 13th century.

Camera Obscuras in the form of large portable boxes or tents, permitting someone inside to trace the image projected onto a plate or canvas, became useful for scientists as well as artists and explorers.

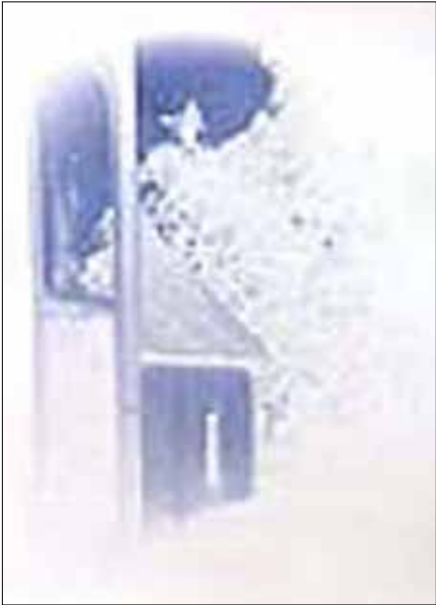
Leonardo da Vinci (1452 – 1519) was one of the artists using the camera in his studies of perspective, resulting in masterpieces like the Last Supper (Santa Maria della Grazie) 1495 - 98.



In 1558, the Venetian scientist Daniello Barbaro (1513 – 1570) published his *Magia Naturalis*; a work on diverse wonders of nature. Here he describes how a convex lens makes the camera image brighter by permitting a larger hole. This makes it necessary to focus the image by adjusting the distance between the lens and the image screen. He also describes how this apparatus creates true perspective images, and how the inversion can be corrected by a mirror.



After the introduction of the modern, portable camera by Barbaro, little happened for the next 250 years. Advancements were made in both optics, physics and chemistry, but still an artist was needed to preserve the photographic image for posterity. A way of preserving it automatically was yet to be found.



“Retina” 1816 reconstructed



Joseph Nicéphore Niépce

The Inventors of Photography

The first decades of the nineteenth century saw no less than three French and one English inventor of photography, here defined as the method of automatically preserving an image projected on a screen inside a camera obscura.

Joseph Nicéphore Niépce (1765 – 1833)

invented both the bicycle saddle and the combustion engine, but was more interested in printing. Searching for an efficient way of image production/reproduction he first tried silver salts, but was disappointed as the images came out as a negative; he wanted a direct positive process.

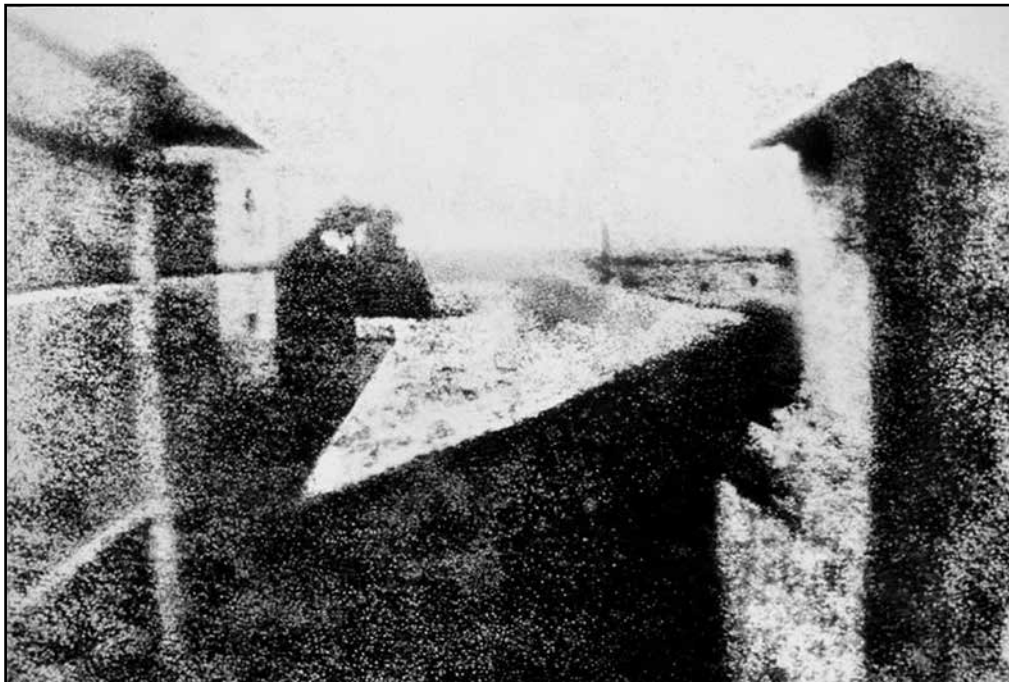
The image far left (negative) illustrates his first experiments in 1816 on what he called “Retinas”, reconstructed from his notes. His failure to preserve the image, they all turned dark when removed from the camera, was also part of his reason for abandoning this approach.

He proceeded experimenting with bitumen of Judea, a substance turning pale grey as it is hardened by sunlight, but otherwise soluble in lavender oil.

In 1827 (some say -26) he succeeded in producing a lasting image by coating a pewter plate with bitumen, exposing it for 8 hours inside a camera facing his courtyard and then washing of the unexposed parts with a mixture of lavender oil and turpentine. The now exposed pewter parts (the shadows) were then etched dark by iodine vapour while the sun-hardened parts (the highlights) remained pale grey.

This is the oldest surviving photograph made in a camera, but even though the technique turned out to be very close to one of the basic principles of picture printing, realized more than half a century later, it was of little practical use in actual photography.

The exposure time was too long. One may notice that the backyard is lit on both sides as the sun has moved through the day.



The world's oldest photograph made in a camera; Bitumen on Pewter.

Louis Jacques Mandé Daguerre (1787 – 1851)

also wanted an efficient way of producing images. In hope of improving his “Diorama”, a show created by large paintings and light-effects, he contacted Niépce for a formal partnership in pursuit of a common goal.

Daguerre continued alone when Niépce died, testing out silver coated copper plates sensitized by iodine, without much progress. One day returning after a longer break, however, he discovered that his last plates had improved. The cause was, after much experimenting, found to be a few drops of quicksilver at the bottom of his locker. He could now expose his plates in the camera for down to ten minutes, then expose them to hot vapours of quicksilver in a locked chamber, and have clear, crisp and beautifully detailed images of his motives. Two years later he also managed to preserve the images by removing excess silver iodide in a solution of table salt and water.

Proudly naming it Daguerreotype, he now started looking for how to profit from his invention. The solution came when the politician Arago suggested that the French state should buy the patent and give it to the world. This Grand Gesture became official August 19th 1839, recognized as the birthday of Photography.

Daguerre and Niépce’s son, who had inherited the partnership, received an annual pension of 10 000 franc as compensation. In addition, Daguerre had secured a British patent on his invention, to be held for some years.

Daguerre’s method was published world wide, and before the end of the year there were photographic studios in all major cities. Countless people became engaged in performing and perfecting the process. Countless people still do.

Photography is, in all its variations, one of the most important inventions of mankind. Knowledge of the faintest stars has been brought to us by this invention, so has proof of the smallest things down to molecules, atoms and quarks. Medicine, science in general, education and media - all of these would be fragments of what they are today without photography, and the computer on which this text is written would be the size of a house, if it existed at all.

Daguerre never understood the magnitude of his invention, nor did his fellow citizens. Nor did they care. They rejoiced in the new toy, and used it extensively and expensively for what people care most about: Their own image.

They had their pictures taken at great pain and great cost; ten minutes exposure time in bright sunlight and the price of a cow for each plate, and were quite happy about it.



The world's oldest Daguerreotype, signed and dated 1837.





The exposure time can be illustrated by this 1839 street view of Boulevard du Temple in Paris. The city is not deserted, but people and horse-drawn carriages are moving so their imprints are spread thin over the plate surface; too faint to be visible to the eye. There is, however, one man having his shoes polished at the street corner. Standing still just long enough, he became the first person of this world to be photographed.



The world's first selfie was made as early as November 1839, by the apothecary Robert Cornelius in Philadelphia, USA.

The exposure time was gradually reduced as the technique was improved, to the point that it became possible even to have Daguerreotypes of children.

Still, the process was slow and tedious, as illustrated to the left in a contemporary sketch. The studio is placed on the top floor to get as much light as possible, a screen prevents shadows from forming under the eyes and nose of the model, and the set can move to follow the sun.



The cameras are placed at eye-level, the photographer is checking his pocket watch for exposure time while the model, placed in a chair with neck-support, is trying his best to stay rigidly still. All Daguerreotypes are originals. In case you wanted one for each of your friends you would have to sit once for each. Here, however, is an efficient studio with two cameras offering double speed.

Two customers are studying "their likenesses", while two more are waiting their turn. An assistant is polishing a silver plate before sensitizing it and we can see some of the darkroom behind him, including the quicksilver steam tank.

Health and security regulations were still not introduced. Photography was profitable, but exposure to toxic chemicals made it hazardous to the health.

Still, portrait photography soon became a worldwide profession, threatening the portrait painter profession and forcing Art to change focus.



Cambridge scientist and multi-genius **William Henry Fox Talbot (1800 -1877)** received the news from Paris with some concern. Having worked for years on a different way of photography, he now saw his own interest being at risk.

Returning focus to his unfinished project he managed to have an almost functional process ready for presentation to fellow scientists in September 1840. The problem of stabilizing the image was later solved by his friend Sir John Herschel, who also suggested the process be called “Photography”.

Talbot’s process, producing a paper based negative that could give more than a thousand copies before it faded, was patented in February 1841 under the name “Calotype”, from the Greek word *kalos* meaning beautiful. There is good argument that this negative/positive principle was a more important invention, even if not first, since it soon became dominant. It also supports the view that photography is an ongoing development rather than one single invention.

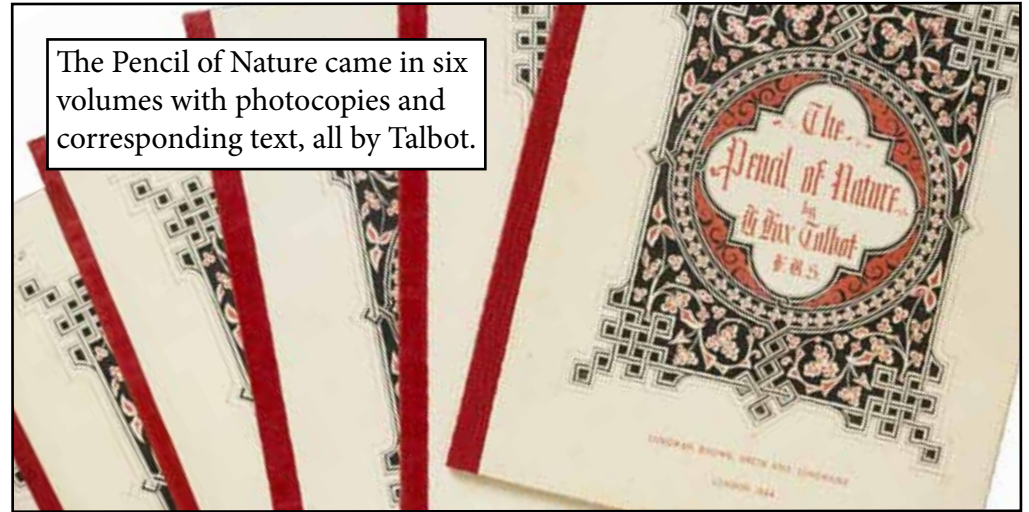
Talbot spent much effort the following years in protecting his patent and marketing his invention. During this he has also influenced our view on what photography is and how it can be used.

Starting out in 1835 with his “Photogenic Drawings” of plants, or what we today call Photo-grams, simple recordings of shadows on photosensitive paper, Talbot became both the first photographic artist and the first photo publisher.

During 1844 to -46, he published the world’s first photo-book, “The Pencil of Nature”, illustrated with printed photocopies.

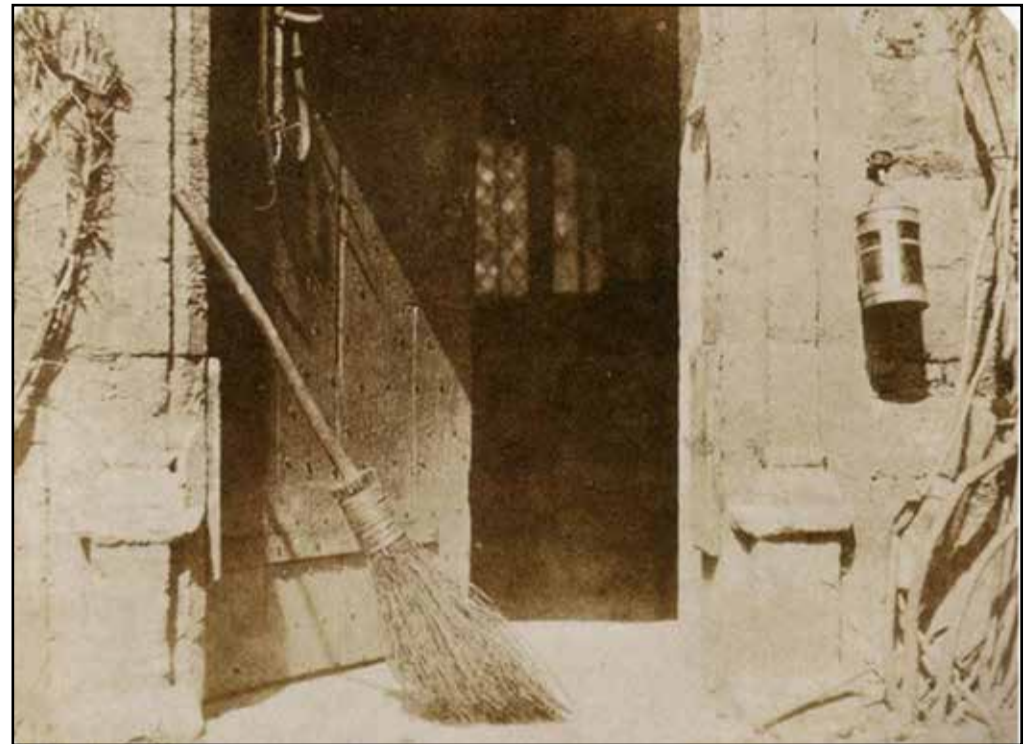


Photogenic Drawing 1839



The Pencil of Nature came in six volumes with photocopies and corresponding text, all by Talbot.

Even though he performed poorly with pencil and paintbrush, Talbot had a keen eye for light and composition. “The Broomstick” may serve as an example of how he was able to perform as a Fine Art photographer.



“The Ladder” was included to show that the exposure time was short enough to allow for pictures of people without studio support.

Talbot’s aim for the project was marketing of the process just as much as the publishing of art, or even more so.

Reading it today, we have to remember that this was cutting-edge technology at the time, and had to be explained.

“The Haystack” was included to show the reliability of the images. Talbot pointed out that every single strand of hay is presented in its right place, something an artist would never do. He also suggested that a photograph of a collection of porcelain might be used as evidence at court, if stolen. It seems safe to assume that the idea that “photographs do not lie”, may have started here.



Hercules Florence 1804 - 1879

is the last mentioned of the four inventors, but probably the first to succeed. He had his process ready and working already in 1833 and called it Photography. His process was also superior in exposure time as well as detail, as can be seen in the 1840 panorama from Rio de Janeiro below. But unfortunately for him, he was located in Brazil - far removed from civilization at that time - and was not noticed at all.

His work was rediscovered a century later, proving that fame depends on both time and location, just as photography does.



Please compare this image with its clearly defined moving objects (boats and waves) with the one on page 10, where all moving objects have become invisible.

The New Profession

Photography spread like wildfire. In almost no time, a whole new profession was established. Over the next decade, this new way of image production was known to most people on the planet, studios were established in all big cities and photographers had visited even remote corners like Ålesund, Norway and Pittsburgh, Philadelphia.

Before long, every little township had their own residential photographer. We entered an era where images were not any longer reserved for the few, they became anyone's property as production improved, competition increased and prices dropped - see the 1859 Punch magazine sarcasm below.



A century and a half later, photographers again see hard times. Some believe photography as a full time profession is at an end, as digital photography has become increasingly automated. Photography itself, however, is democratized as visual expression now is becoming almost as commonplace as verbal.

Daguerreotype was mainly used for portraits, normally sealed in gutta-percha or leather casings sized around 9x8cm or smaller, often finely decorated. Other motives like city scenes and landscapes do exist, as well as stereoscopic images and of course some porn, as well as larger sizes, all much harder to find and as such more valuable. While well preserved portraits may be found at \$50 or less at the antiques markets, cityscapes may fetch \$10 000 and more, since they are often the oldest photographic documents in existence of an area, and very rare.

The Daguerreotype was often called: The Mirror that Remembers. This is partly due to the fact that they are inverted like a mirror (see pages 2 and 5), and partly to the fact that the surface is like a mirror. This makes them difficult to reproduce, see below; the surroundings they reflect have to be dark.



This Daguerreotype has been removed for new sealant and cleaning of the glass cover, the goldsmith's mark visible at the silver plate's bottom right corner. This is work that should be done ONLY by experts, since the image is extremely fragile, just a few molecules deep on the silver surface. Small scratches from the frame separating the image surface from the glass cover can be seen, as well as tarnishing as a result of leaking sealant. NEVER try to remove the tarnish in any way, the image will be destroyed immediately. And that would be a pity, as all Daguerreotypes are originals that can never be restored or replaced.

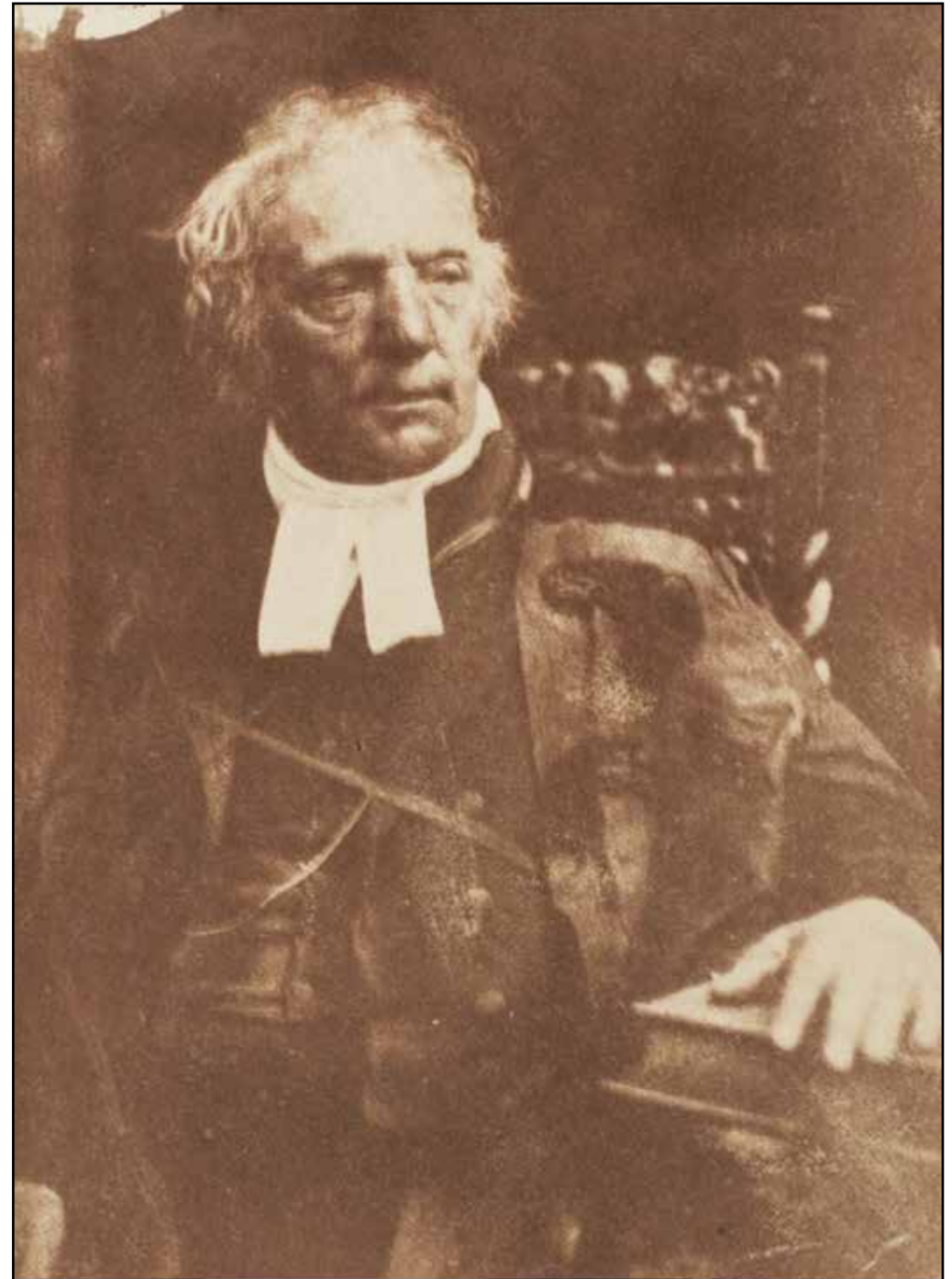
Calotype was also mainly used for portraits, partly due to the paper structure of the negative. The softness this created on all copies made it less suitable for landscapes and cityscapes where detail mattered. Portraits, however, were quite a different deal. The models rarely complained about acne, warts and wrinkles being concealed by this flaw - comparable to the “beauty” filter of today’s cell phones. Some photographers even used low quality lenses to increase the softness of their images.

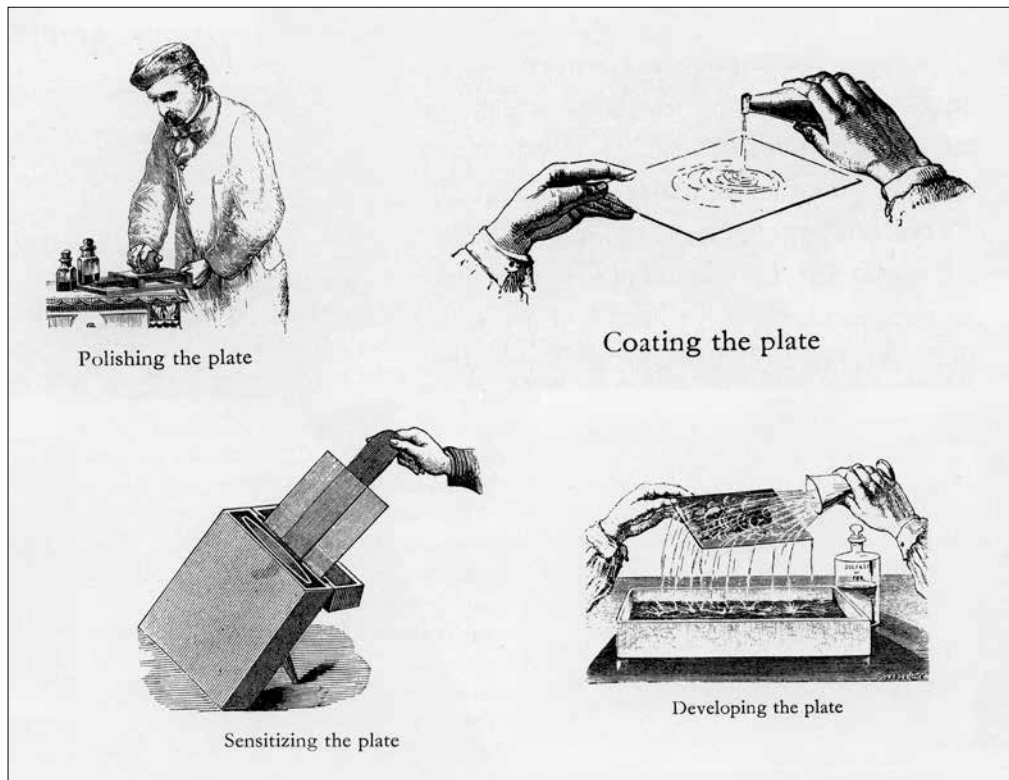
David Octavius Hill’s 1843 portrait of Thomas Chalmers, to the right, may serve as example of early paper based portrait photography. The style of the traditional portrait painting is easily recognized in this early work. Hill and associate Robert Adamson became pioneers of fine art photography through extensive experiments, using the novel invention with enthusiasm.

The need for a clear, transparent negative was still pressing. Silver salts in egg-whites on glass was tried, unsuccessfully. It worked well on paper, though. The very thin “albumen” photo paper was used until the turn of the century, and they are easily recognized in old albums by their cardboard mount and their yellowish colour.

Frederick Scott Archer (1813 - 57), English sculptor and inventor, found and published the solution in 1851. By dissolving cotton in ether and alcohol, he produced a clear, sticky substance, called collodion, that would contain silver salts and adhere to glass.

The wet-plate process, as it was called, dominated photography for the next 30 years. For Archer, it brought fame and respect but little else. He never patented his process, nor made any profit from it in any way, and died in poverty six years later.





The wet plate process required preparations. The glass plate had to be polished, then coated with freshly mixed collodion, then sensitized with silver iodide, exposed in the camera and developed while it was still wet- hence the name.

Photographers had to carry heavy loads of equipment, and every shot had to be carefully planned. There was little room for spontaneity. Still, the advantages outweighed the disadvantages. The results obtained were remarkable. Wet-plates combined the crisp detail of Daguerreotypes with the Calotype's possibility for numerous copies, and as a bonus; higher sensitivity to light.

The exposure time could now be reduced from minutes or fractions of minutes, to fractions of seconds. The importance of this becomes clear when comparing the 1859 shot from a Broadway street on a rainy day (right) with the street view from Paris, 20 years earlier (page 10). Here the street is buzzing with life, including people in mid-stride across the scene.

The resolution of the collodion emulsion was incredible; equal to the more expensive full format DSLR cameras of today. Combined with negative sizes around 18x24 cm, this provided image detail in excess of a 1000 megapixels - a performance that the next steps in photographic emulsions did not match until nearly a century later. Compared to the previous paper negatives this new technique was simply amazing, and only the best quality lenses could do justice to it. Landscape photography became popular, documentary photography became possible, and much more.



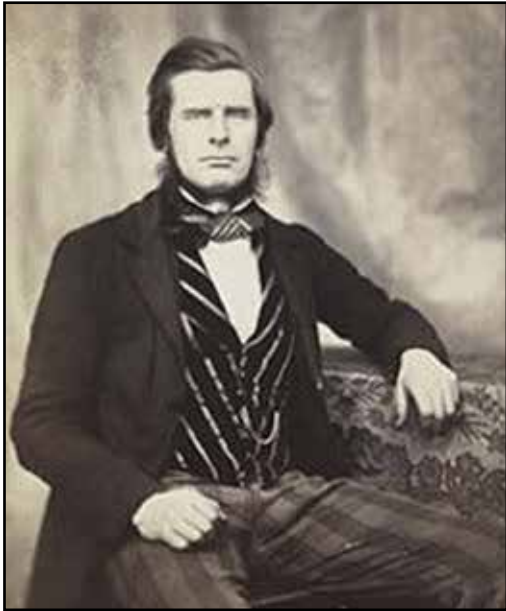
All early photo processes were sensitive only to blue light, resulting in the skies of landscapes regularly becoming overexposed. To overcome this, some photographers now took an extra, less exposed negative of each motive, and combined them when making copies using a masking technique of paper cut-out or opaque paint. Apart from being the first technique of what we now call Bracketing or HDR, this triggered an idea to combine negatives of different motives into one, greater composition. Gustave Rejlander's "The Two Ways of Life" is the most remarkable of these, presented at the Manchester Art Treasures Exhibition in March 1857. The image is a meticulously assembled combination of several tableaus, depicting a young man's choice between Vice and Virtue.

As the first publicly exhibited photograph of a nude in England, the first major art photograph and the first photo-montage it caused quite a sensation, and it is interesting to note that Queen Victoria herself bought a copy as a present for her beloved Prince Albert. Still, regardless of Royal support, voices of criticism were loud and plentiful, both regarding photographing nudity and Rejlander's deviation from "straight" photography. He later gave up on his composite images, as they gave "... no gain and ... no honour."



A quite important side benefit from the collodion process was the fact that a slightly underexposed negative appeared positive when looked at against a dark background. By mounting a glass negative in a casing, with black paper behind it, people could now be offered Ambrotypes; affordable Daguerreotype lookalikes at a fraction of the cost. One step further, applying the collodion emulsion directly on jet black painted corrugated iron plates gave us the Tin-Type - inexpensive photography indeed. When French photographer Disdéri in 1854 patented his multi-lens camera, with up to twelve lenses giving twelve images in one, single exposure, prices hit rock bottom. "Having their likeness taken" was now really for all. Calling cards with pictures became high fashion, leading to rumours that Napoleon III once had stopped his troops outside a studio to have his portrait taken. A solid fact is that US civil war soldiers flocked to the studios before going to war and four tin-type calling cards for 25 cents plus tax became common, quite a drop from the 1840 price of 3 dollars or more for one Daguerreotype.





Roger Fenton (1819-1869) was one of the first to use this novelty for documentation. Exhibiting photographs after a journey in Russia in 1852, he founded the British Photographic Society and became the first official photographer for the British Museum. Later he produced a series of splendid studies of British Cathedrals and landscapes, until he abandoned photography completely in 1862. During this short career of one decade he made a lasting impression on the profession.

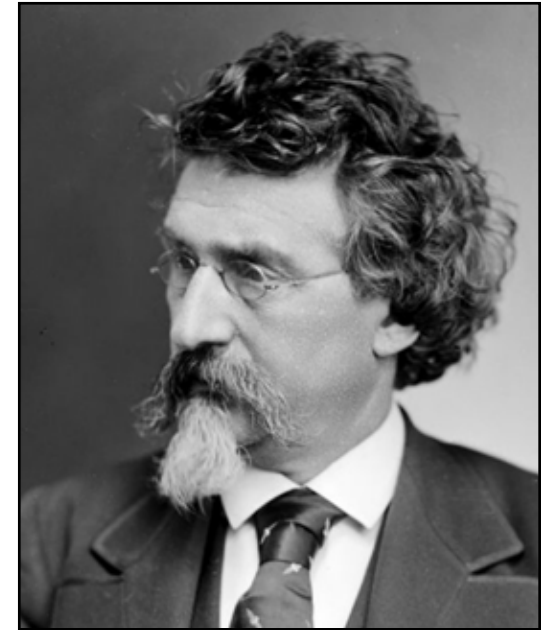
Encouraged by the government, he became the world's first embedded war photographer as he documented the troops, officers, supplies and terrain of the Crimean war in 1855. Some of his pictures were published as xylographic reproductions in the Illustrated London News, others were exhibited. Free to move his Photographic Van around, his work has been criticised for omitting all the death and destruction of warfare, so abundantly present at just this war. His staged scene of a wounded soldier getting Tender Loving Care by a fellow soldier and a nurse (next page) is hardly representative. The reality was terrible, people in thousands dying from diseases and wounds, turning home opinion against the war and probably instigating Fenton's mission as a means to promote it.

The bottom two images next page are the only actual signs of war, hinting at the famous "Charge of the Light Brigade". This is a different valley though, probably photographed as enemy cannon balls are being retrieved. Some people believe the left-hand picture is the earliest, indicating that the right-hand one has been staged by Fenton. See Notes.





Matthew Brady (1822-1896) was a successful Washington D. C. photographer when the civil war broke out in 1861. Compelled by an urge to document this terrible drama, he organized and financed several teams to travel along and photograph the war as close to the action as possible. The result was 10 000 images now preserved in the National Congress Library; a personal debt of 100 000 dollars and bankruptcy. Brady, who was once part of high society having photographed 18 of the until then 19 presidents of the US, died penniless and had his funeral paid for by veterans.



Why this sordid outcome? The Congress saw little reason for covering his expenses, in spite of some understanding of the value of his work. He was eventually granted a compensation, but far from sufficient. Other ways of financing were hard to find. Unlike Fenton's images from the Crimea, Brady presented photographs of what war was, and few people wanted to see, or even worse, pay for and possess images of dead soldiers. Some pictures came out in the press as xylographic reproductions, but as a whole, media at the time was not illustrated nor interested in illustrations.

There simply was no market for documentary photography at the time, and certainly not for disturbing images.

Timothy H. O'Sullivan (1840-1882) was the most profiled of Brady's employees. "The Harvest of Death " is his (and possible the) most famous photograph from the civil war, taken as the gun smoke still lingers after the battle of Gettysburg. Two persons with horses, possibly officers, are seen through the acrid mist. The rest of the persons present are lifeless, freshly killed soldiers. One may understand why images like this met a reluctant audience at the time.





“Sharpshooter Gettysburg” is another of O’Sullivan’s more well-known images. The gun is not original, by the way; placed there probably by O’Sullivan himself. A sniper’s valuable precision rifle would hardly have been left behind in battle. We have to keep in mind that “action” photography at the time was practically impossible. The wet-plate process was too slow and fragile to be used as we use cameras today, particularly so since a photographer operating a camera on a tripod, with on-the-screen-with-head-under-dark-cloth focusing would be a very easy target for enemy fire. Photographs with this technique of actual battle situations are very rare indeed, and always taken at a distance.

The image to the right by **John Reekie (1829-?)** shows African Americans collecting remains from an older battlefield at Cold Harbor, Virginia in 1865.

One may wonder if the man at the barrow (enlargement) is a newly freed slave, and whether or not the skull on the barrow belonged to one who fought for his freedom or the opposite. And whether it really matters.

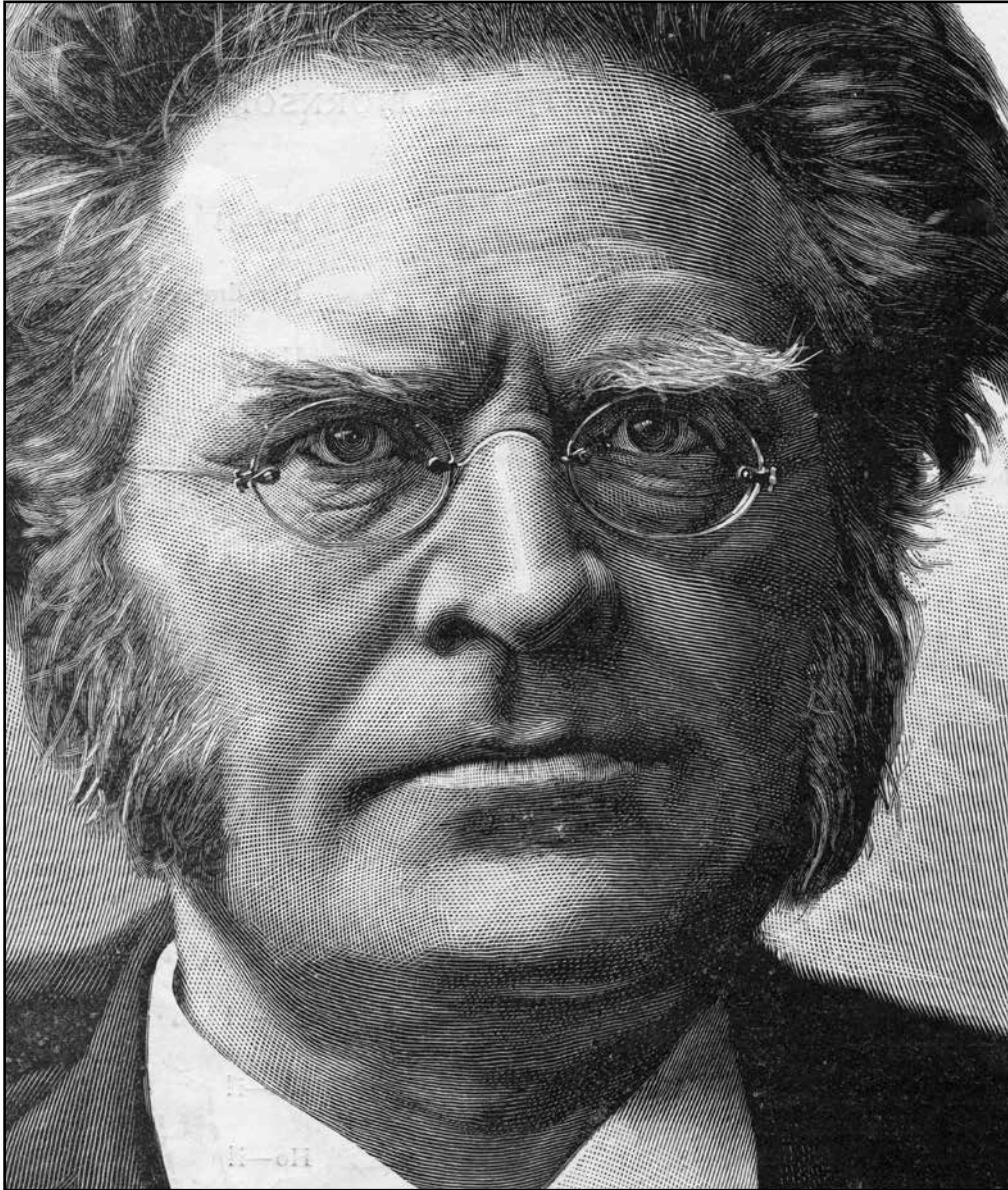


Documentary photography became possible through collodion, as we have seen, but not sufficiently so to become a profession. For printing, the images had to be reproduced by an artist, usually by carving thin lines into the end of a hardwood block; a Xylographic cliché (in English mostly just referred to as woodcut). The process was time-consuming and expensive, and commonly used by weekly publications of less pressing matters, seldom for news illustrations.

The earliest case in Norway of a printed news photograph is Marcus Selmer's picture of a burnt down house in Bergen. The fire took place January 21st, and the picture was printed in *Illustreret Nyhetsblad* (Illustrated News Magazine) on March 8th 1863 – more than six weeks later.



As can be seen, the proportions have changed a little, and the fuzzy imprint of people in the dark and rainy street has been removed. Apart from this the print is impressively true to the original. Xylographic woodcut production became a growing trade in the last half of the nineteenth century, and some artists acquired a remarkable technique in both detail and impression of half-tones. Towards the end of the century we can find beautifully reproduced pictures, sometimes signed by both the photographer and the xylographer, and raw woodblocks with photographic emulsion were produced for the artists, to promote both efficiency and accuracy. By the end of the century, however, xylographists faced competition from a new invention, and the last were printed before World War One.



Printing is simple. You put paint on paper, or you do NOT put paint on paper. Printing photos is consequently difficult, since photographs have half tones. Printing pictures therefore depends on creating an *illusion* of half tones, and the xylographers did that by carving lines, closer or further apart, as seen in the tightly cropped 1890 portrait of Norwegian poet Bjørnstjerne Bjørnson above.

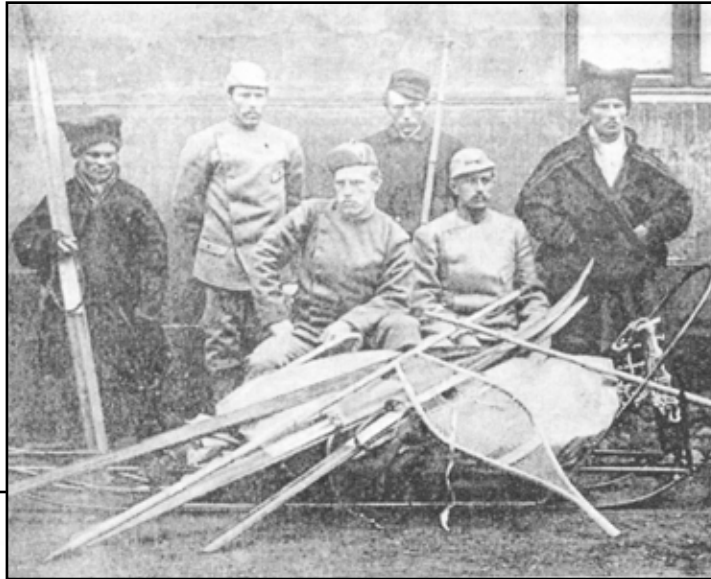
Georg Meisenbach (1841-1912) used lines to make dots. By scratching fine, parallel, evenly separated lines in a glass plate using a diamond, and then doing the same again at a 90 degrees angle, he created a cross-pattern grid. By photocopying images through this grid on to a high contrast film the half tones of the original were reduced to dots of different sizes. Dark areas became large dots with little space between them, and light areas became small dots with open space between. His autotypie process was patented in 1882, see the 1888 example below.



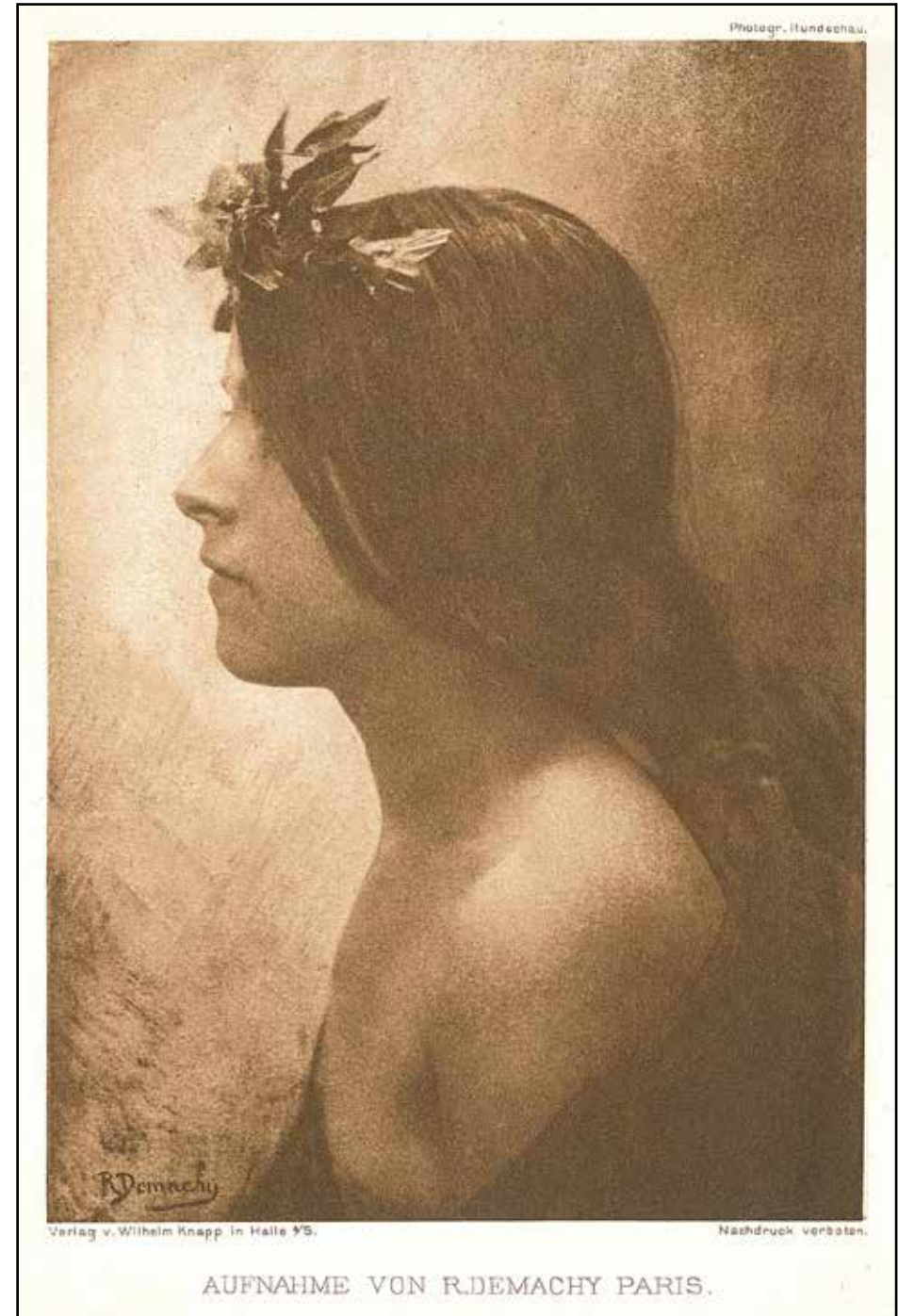
The invention led to millions of reproductions suddenly becoming affordable. Art, photographic or otherwise, became available for everyone; to the scorn of some and the joy of others. To the right is a work of **Robert Demachy (1835-1936)** that was printed in Photographische Rundschau 1898.

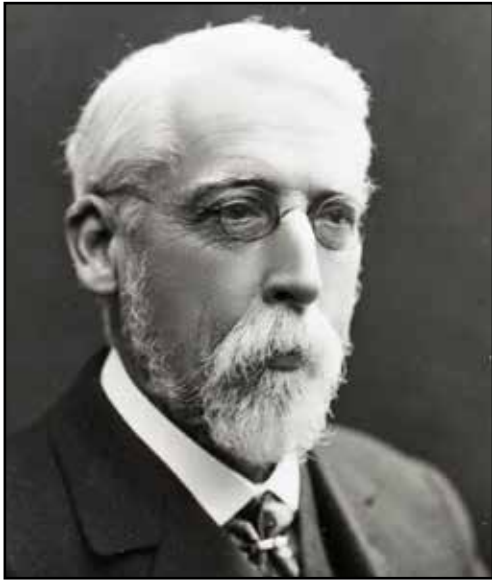
Right and below we see a photo of Nansen and his crew on return from crossing Greenland in 1888, reproduced as both autotypie and xylographic reproduction.

Which is which is left open for consideration, it should not be difficult to decide.



The printing process is in principle the same today. Different sized dots of black create an illusion of half tones, while dots of Cyan, Magenta, Yellow and black (CMYK) create an illusion of millions of different colours.





Richard Leach Maddox(1816-1902) invented the dry plate in 1871.

Silver salts emulated in gelatine on glass formed light sensitive plates that could be dried, stored for years in cold, dry places and used at a moment's notice when needed. By 1879 dry photographic plates were commercially available to the public, and there was no longer any need to carry around dark-room tents and chemicals.

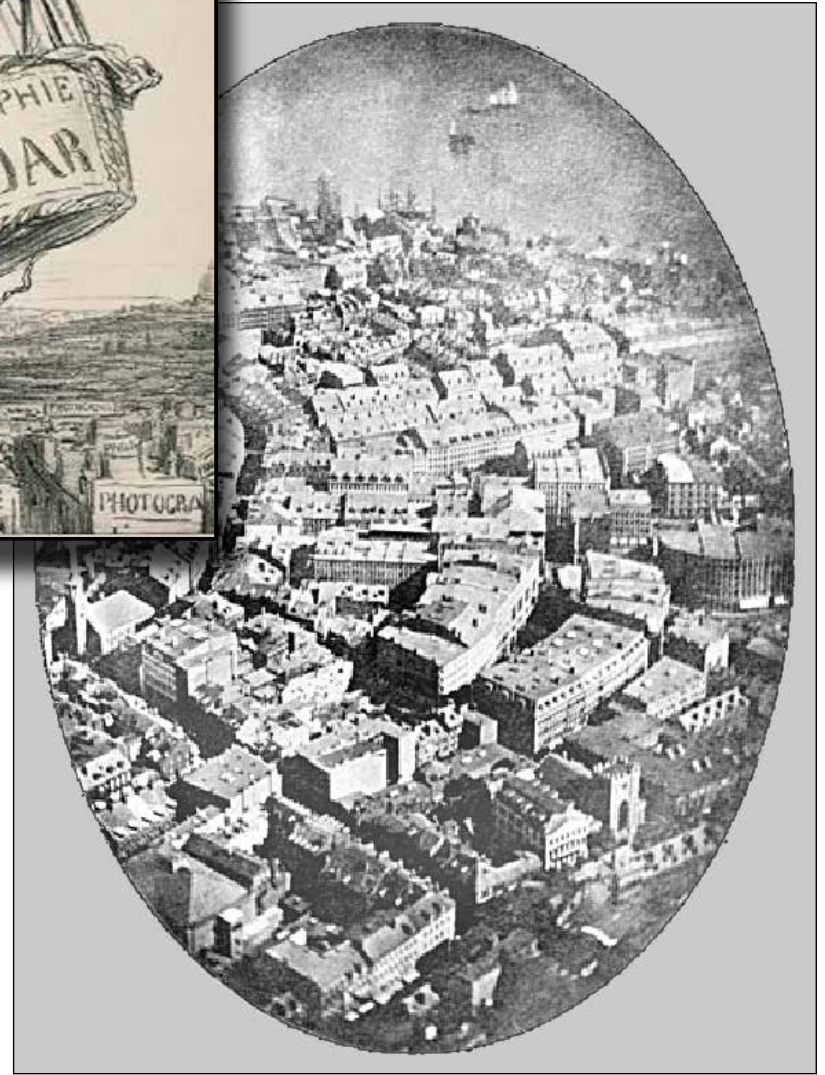
One person to embrace the dry plate was French photographer Gaspard Felix Tournachon, better known as Nadar (1820-1910).

Having taken the first aerial photo, of Paris, on a wet plate negative from a balloon in 1858 (see photo and contemporary cartoon left and below), he now delighted in a more efficient approach and another novelty.

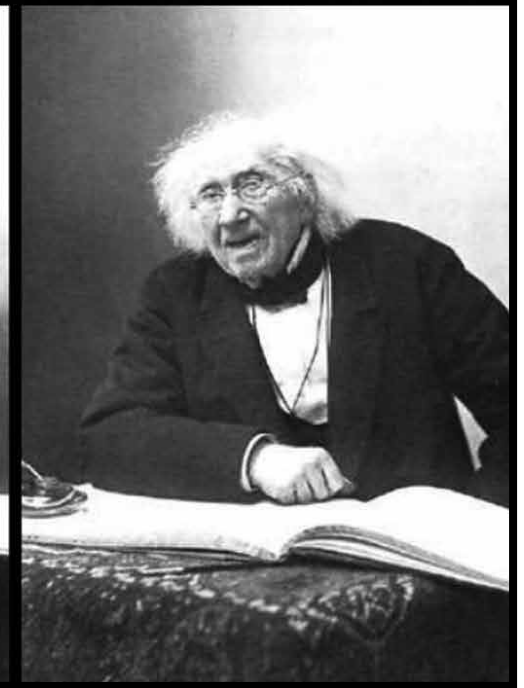


Darkroom pouches where you could put camera or cassettes inside and handle them through light-proof sleeves made it even possible to remove exposed negatives and replace them with new ones in broad daylight.

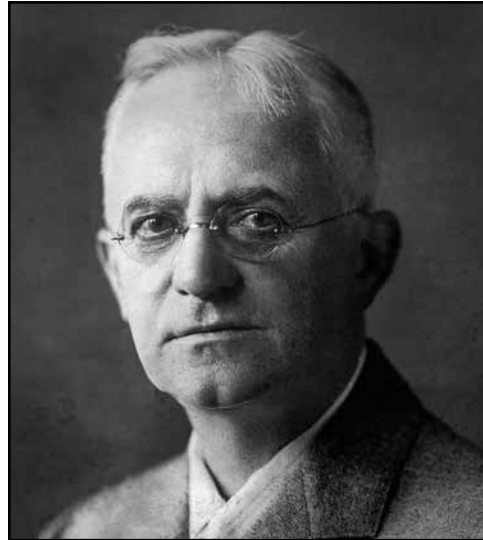
New times indeed.



The first photo-interview in history was performed on the eve of French chemist Michel Eugène Chevreul's 101st year, on "The Art of Living 100 years". Nadar's son Paul photographed while Nadar senior interviewed the old man, resulting in *Le Journal Illustré* on September 5th 1886 publishing a series of responses from the old man, verbally and visually, to the diverse questions raised. The Journal had to be reprinted several times during that day to meet public demand, raising the price each time.



George Eastman (1854-1932) was another to see the opportunities. As an amateur photographer he saw that the complicated process of making photos prevented most people from doing so, even if they wanted to. As a banker with an eye for profit, he also saw that the dry plate emulsion could open up a huge market for amateur photography.



In 1880, he patented a process for mass production of dry plates, and built a factory to produce them in large quantities. That was just the beginning.

Glass plates, even dry and ready, were still too complicated to him, as they had to be changed for each exposure. In 1885, he patented a roll film holder based on a long strip of paper coated with gelatine emulsion. In 1888 he launched his revolutionary Kodak camera with the slogan "You press the button, Kodak do the rest". Kodak was a word created just to be easily noticed, and it worked.

The Kodak was sold at \$25. It came in a box containing the camera fully loaded with paper based film; a protection plug for the lens and a winding knob. The film took 100 exposures. When all those were exposed one put the camera in the box and sent it to Kodak. They developed the film, transferred the emulsion to glass plates, made albumin copies of each negative, checked the camera for wear and tear, reloaded it with new film and returned it all to the customer.



You pressed the button. Kodak did the rest, as promised. For a fee, of course.

The Kodak company prospered, always improving products, always expanding. "The Kodak" was soon replaced by "Kodak Number One", replacing the original rotating shutter with a very simple and reliable blade shutter; a standard for millions of cameras to come. The paper negative roll was also soon replaced by one of celluloid, originally invented by the Rev. Hannibal Goodwin two years before Kodak started using it. A long law dispute followed ...

The Kodak produced circular images, as a consequence of a very cheap lens, so holding the camera straight was not important. Two lines in wedge-form imprinted in the camera body served as indicators of where to point and how much would be included.



The advantages were sturdiness and availability. It was not quite as handy as our cell phones, but the comparison is not bad. One might safely say that the "snapshot", the "candid camera" and of course amateur photography was started and actively promoted by Kodak for more than a century. "Preserve Your Memories" came to mean "Take Pictures" and a "Kodak Moment" became a phrase for a situation worthy of a picture.



Gold washing Alaska 1890



Market women 1889-90

Introducing the “Brownie” for kids ten years later, price \$1; Kodak had truly made photography democratic. Renowned photographers like Ansell Adams (1902-1984) started with this cheap little box camera. They were produced by the millions for half a century, and can today be found tucked away on shelves, in attics and forgotten chests all over the planet.

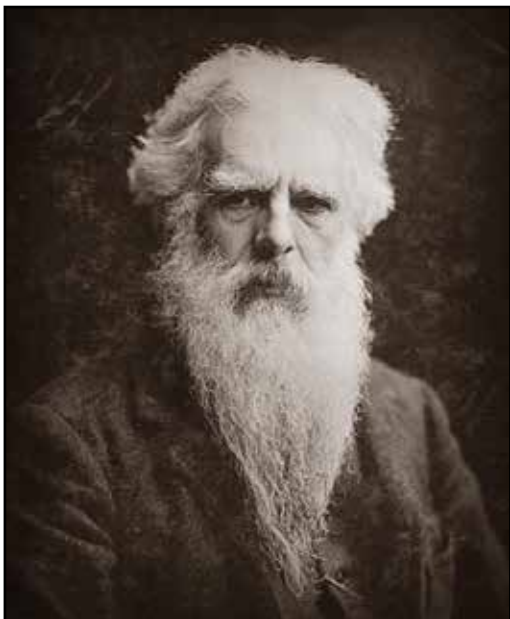


Photography became a part of everyday life, to the point of disturbance. The London satirical magazine Punch published a cartoon on October 4th 1890; “The Amateur Photographic Pest”, depicting a park scene invaded by a swarm of camera carrying enthusiasts. Privacy, it seemed, was something of the past. Detective cameras were indeed manufactured, so “paparazzi” photography became a fact, in deed if not in name, and, as now; not to the liking of all. Ever since Disdéri in 1854 introduced the “Calling Card” photo along with his multi-lens camera, portraits had been available for collection. People had albums also for celebrities, and some celebrities used this for profiling. Norwegian author Henrik Ibsen (1828-1906) was one who regularly had his selected portrait advertised at given studios. He insisted on being portrayed with a sinister look, and refused to be photographed in informal situations. Below is a rare “stolen photo” by **Anders Beer Wilse (1865-49)**, of a sleigh-ride in 1904. The copies were sold as “Henrik Ibsen driving”.



Photographs for sale, as albumen prints of sceneries and big events became an issue with the wet plate, and increasingly so as the dry plate expanded the reach and range of photography. The market was, to a large degree, tourists. **Knud Knudsen (1832-1915)** from Bergen was the Norwegian pioneer in this field. Through the last half of the nineteenth century, he documented sceneries and activities all over the country; first to be sold as prints, later as postcards. He saw his own pictures partly as mementos and partly as motives for painters. His pictures of working people, in particular, became inspirational to others who followed. His archive is now part of Bergen Museum Library.





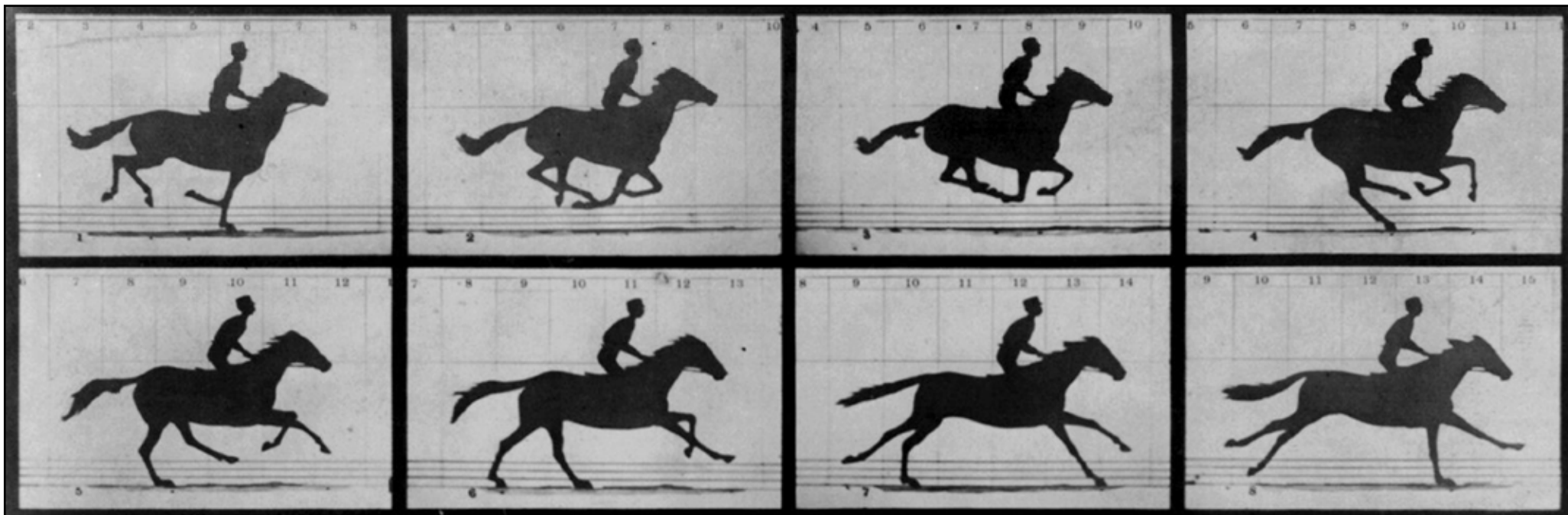
The dry plate gave one unexpected advantage. Gelatine of animal parts contains small amounts of sulphur, that served to increase the sensitivity to light even further. While the sensitivity of the wet plate could be equal to 1 ISO or less, according to modern tests, dry plates soon reached 100 and more. This opened up for short exposure times.

Eadweard Muybridge (1830-1904), was one to appreciate this benefit. He needed short exposure times for his motion studies, and the new rapid emulsion gave that possibility.



Astrophotography also needed sensitivity, plus very much longer exposure times with telescopes adjusted for earth rotation.

This first photo of the Orion Nebula was done in 1880 by pioneer astro-photographer **Henry Draper (1837-1882)**, using a 28 cm refracting telescope and an exposure time of 51 minutes.



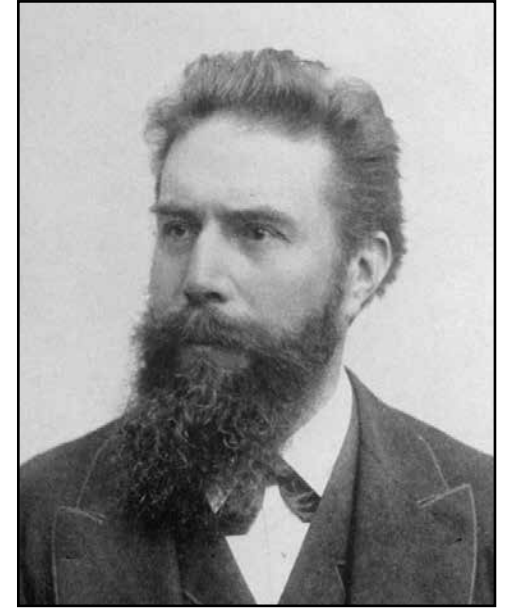
Proving that a galloping horse regularly had all four hooves off the ground simultaneously, he allegedly settled a \$25 000 bet. The story of the bet is unconfirmed, but the gait of the horse was documented beyond doubt in 1888. The series was shot using 24 cameras in a row with exposure times around 1/2000 second.



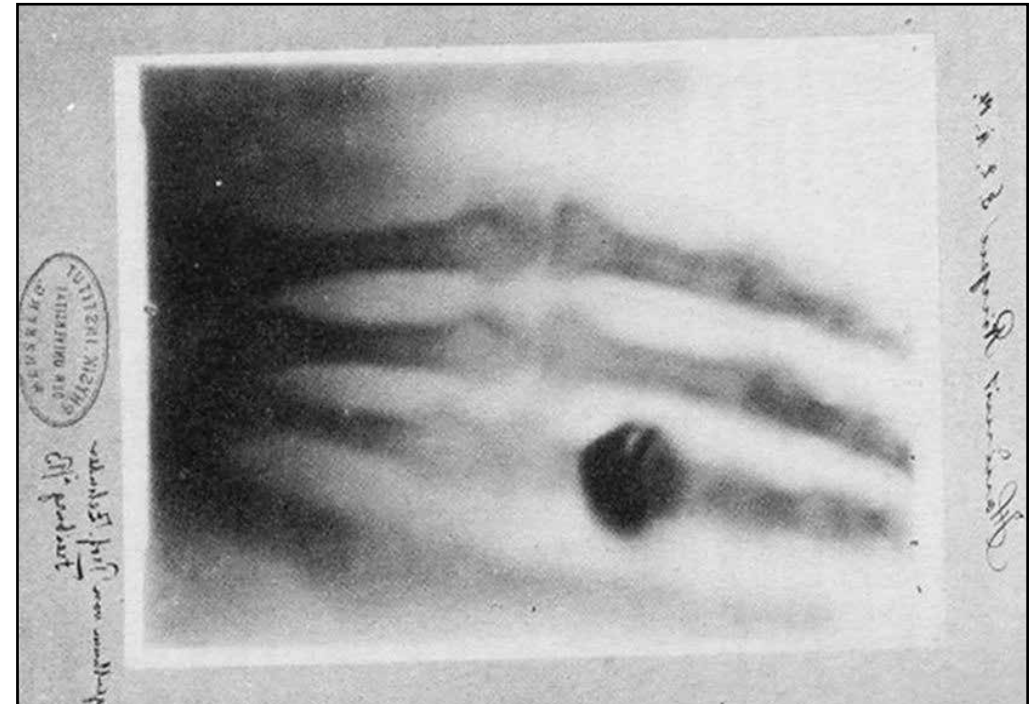
March 22 1895, the brothers **Auguste (1862-1954)** and **Louis Lumière (1864-1948)** demonstrated moving images on screen for the first time. Using one single camera they recorded a series of negatives on a long strip of celluloid film; like in the Kodak cameras, in one continuous stretch. The negative strip was then copied on to another strip creating a positive series of images; like Myubridge's few years before, but transparent. The images were then projected onto a screen, also in one continuous stretch. The effect was formidable. According to history, a public showing of a film strip of a train coming into the station gave the impression that the train was coming out of the screen, resulting in panic.



In November 1895, **Wilhelm Röntgen (1845-1923)**, German/Dutch physicist, noticed something peculiar when testing the effect of electrical discharge through various types of vacuum tube equipment. A fluorescent effect that seemed to be caused by some unknown type of invisible rays occurred. Working on the issue over the weekend, he identified the rays as electromagnetic radiation in a wavelength he decided to call X-rays, as they had been unknown until then. The x-ray's ability to penetrate tissue came as an additional surprise during his experiments that weekend.



Two weeks later he took the world's first X-ray picture, of his wife Anna's hand.





Surgeons had used photos since the days of Daguerre to document diseases, sharing detailed visual information across time and space. Now they could also document the inside of bodies.

Rapid motions could be studied in detail, and even the stars gave up their secrets.

Explorers brought cameras into the “Great Unknown”, bringing back exact descriptions of people, dress, habits and habitats from exotic areas.

Common vanity had financed a whole new profession of portrait photography and the new invention of the cinema; accommodating people’s urge for thrill and entertainment, soon became a vast and profitable industry.

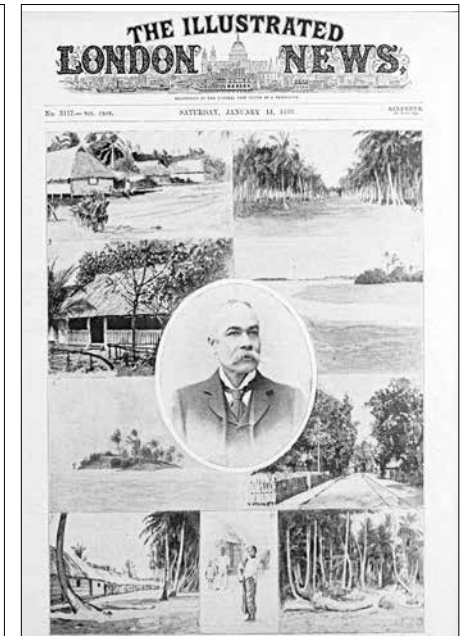
It would be safe to say that by the end of the nineteenth century photography was fully embraced by science and society with one single exception, the Press. Newspapers still relied almost exclusively on words. Images were exceptions, photographic images were rare exceptions indeed.

Some of the reasons are easy to find. Cameras were still not widespread tools, so the chances of having a camera ready at a noticeable event were small. Quality would be a second reason. Even if there was a camera and someone to operate it, the quality of the image would often be poor. Consequently, printed images would often be artist’s impressions based on photos, even after 1881.

Speed would be a stopper, and remained so for long. Development and cliché production at the turn of the century required at least a day plus transport, and late news is “late” news. Dead, that is. While words crossed the globe over telegraph or phone, pictures had to move physically for many more years.

Problems regarding high speed printing of pictures on poor quality paper also played a part, even for larger newspapers. Much of this was not solved until far into the next century, as it also represented a severe financial challenge.

A less discussed reason is habit. Four centuries of just type do set a standard, and the press is more conservative than some like to admit. Daily publications provided a constant flow of facts to their readers, and rarely saw pictures as necessary. Even arrogance may have been involved. Opinions like “Letters for the learned, pictures for the illiterate” were seldom voiced but not unheard of. Whatever the reason, most papers in 1899 looked like The Baltimore Sun below left. The Illustrated London News represents the exceptions.



It is interesting to note that the very first illustration in a Norwegian newspaper came in 1811, in the small, rural Norsk Landboeblad in Volda, as a woodcut of the Ursus Major.

Freshly started (1810) the paper had no habits, the publisher just felt a mission to inform and educate.





Illustrated press had existed a long time. The Illustrated London News is mentioned. Frank Leslie's Illustrated Newspaper and Harper's Weekly were other, well informed, serious and influential illustrated publications. North American press in particular saw the need for illustrations, as great numbers of newly arrived immigrants often had little knowledge of English. It is rumoured that Joseph Pulitzer once tried reducing the use of illustrations in "The New York World" to make it appear more serious, but had to reverse his decision when the circulation dropped. In Norway, Verdens Gang (established 1868) was one of the few active users of images during its first decades. Here as abroad, xylographic prints of humoristic, satirical or plainly informative character were frequently used to underline or expand the content of the text. The basis could often be a photograph, but was seldom printed as such.

Exceptions were portraits of important persons, pictures promoting artists, and advertisements. The reason may of course be that the clichés for such pictures were already there, or provided by the artists or the advertisers.



June 14th. 1892, advertisement in Verdens Gang.

Press photography, apart from the endless row of portraits, has a long tradition of Drama and Disaster. The first printed press photo in Norway was about a fire. The first day-fresh press photo was a fire (Aftenposten 1903) and the first major photo reportage was about the great fire of Aalesund in 1904. This was drama of sufficient magnitude to justify the extra effort and expenses of photos, and it is not peculiar to Norway. Tragedy is thrilling. It also raises compassion.

ILLUSTRERET UGEREVY

TILLÆG TIL NORSK FAMILIE JOURNAL

No. 7.

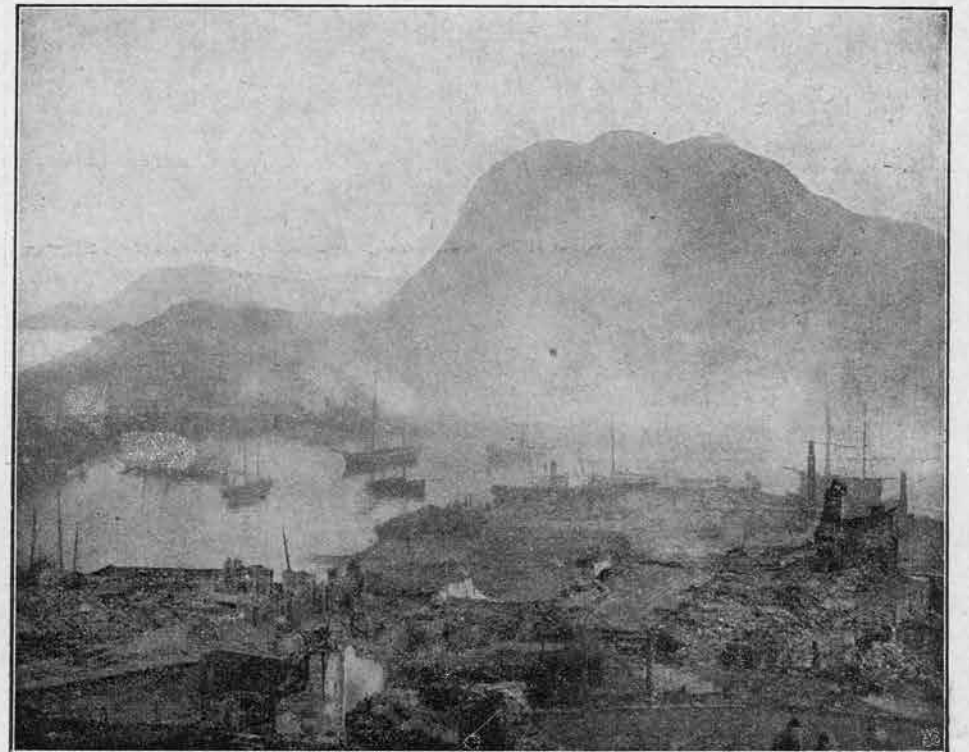
Søndag den 14de Februar 1904.

8de Aarg.



(Fot. Eilert Dahl, Molde).

Aalesund efter Branden: Landmandsbankens Ruiner med Levningerne af Pengestabet.



The news from Aalesund raised compassion both at home and abroad. Below, we see people packing relief aid for the unfortunates having lost home and shelter. The photo is probably commissioned, as one of the first of its kind.

Gaver til de brandlidte i Aalesund.



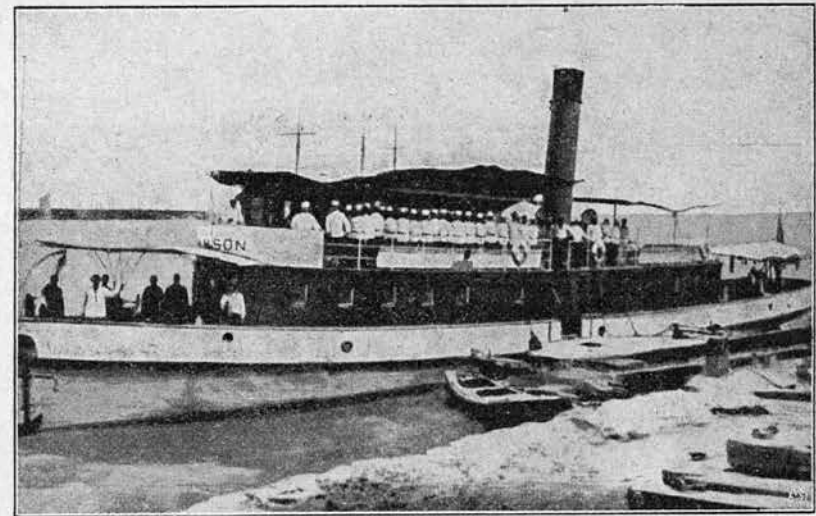
Berg-Hausens Expeditionsslokale i Kristiania forvandlet til et tætpakket Varelager.

Ulykken i Aalesund mangler heldigvis Sideslykke i vort Land. Men ogsaa Medfølelsen i By og Bygd er enestaaende. Slags, Benge, Klæder, Mad og Husgeraad strømmer allevegne fra ind til Komiteerne, der har mere end fuld Syre

The turn of the century, around 1905, is often seen as a break-through time for press photography. Reality is a bit more modest. Photos did become more common, but not in all papers, not every day and not at once. Some papers stayed reluctant to photos far into the first half of the century and beyond, and even if most large papers had their own photo departments before WWII, the full break-through of news photography came only after offset printing became dominant in the late 1970's.

Still, the new century did come with a change. Cliché-producers started offering print-ready pictures from incidents like the Japanese-Russian war 1904-1905, effectively establishing the first international press photo services, and readers became used to pictures. Press photography had come to stay!

Fra Krisen i Ostasien.



En russisk Patruljebaad i Manchuriets Farvande.



En Gruppe Manschuere.

NOTES:

In a time of Google, I see little point in giving references to diverse printed matter when verifiable information is available through a few clicks on the Web. The following is a list of references to and comments to diverse pieces of information given on the previous pages. Some information have also been left out in the above due to a minimalistic approach to text on the main pages and is included here. It has been my intention to cut text in favour of images, so for those who want more words I have added some here. I have also provided links to certain web-sites in cases where the good ones may be hard to find, or the easiest found information may be of a dubious character. I have also referred to books, even some very much out of print, in cases where I have not succeeded in finding reliable information on Internet. In cases where there are no links or references, the statements are my own.

P.4-5.

On al-Haytham:

Raynaud 2016: 97ff.

On Mozi:

<http://www.iep.utm.edu/mozi/>

P.6.

On stone-age pinholes:

<http://www.paleo-camera.com/>

On paleolithic tents and paintings:

<http://www.aerobiologicalengineering.com/wxk116/StoneAge/Habitats/>

<http://www.lascaux.fr/en/prepare-your-visit/visit-lascaux/international-centre-for-cave-art>

P.7-16.

The web is packed with extensive and verified information far beyond what is presented in this little compendium. Places to look for more may be:

<http://www.obscurajournal.com/history.php> and:

<https://www.britannica.com/technology/photography>

<http://www.midley.co.uk/>

https://en.wikipedia.org/wiki/History_of_photography

<http://photo.net/history/timeline>

For a closer look at The Pencil of Nature:

<http://www.pencilofnature.com/>

P.15.

On composition: Photography copied composition from portrait painting. Most portrait photographers performed stereotypical mass production with few leaving any mark of originality on their work:

Frizot 1998:110ff.

P.17.

Wet plate resolution:

<https://petapixel.com/2013/07/14/this-gigantic-tintype-camera-shoots-the-analog-equivalent-of-gigapixel-photos/>

P.18.

Rejlander:

<http://www.codex99.com/photography/10.html>

Keeping today's view on "Doctored Photos" in mind, a study of Rejlander's contemporary critics could be worth the effort.

P.19.

While one Daguerreotype in the early 1840's might cost the value of a cow, a tin-type of the -60's could be had for a few pints of milk. Going rate during the US civil war was four pictures for 25 cents (my personal collection of CW calling cards). The "Calling Card" images prevailed well into the next century, even if the custom of presenting such cards at house calls in most areas fell out of common use in the 1860's. See:

<http://www.photographymuseum.com/histsw.htm>

The story of Napoleon stopping his troops outside a studio to have his portrait taken was made up by Nadar as a publicity stunt. It did not happen, see:

Frizot 1998:115.

As for New York city cost of having a 1940 Daguerreotype portrait taken, see: *Hannavy 2008:1100.*

\$3 was in average one weeks wages in the US at the time. In France 10 fr. has been mentioned as an early price a portrait, and the dollar and the franc was about equal in silver content and weight at the time.

Tax on photography: This was introduced as part of financing the US civil war and in effect only until 1866. The rate was 2 cents for less than 25 cents image cost, 3 cents for 25-50 cents image cost, 5 cents for 50 cents -1\$ image cost and 5 for each additional \$ or fraction thereof.

As for the popularity of calling card pictures, see also page 31.

P.20-21.

Fenton:

http://www.metmuseum.org/toah/hd/rfen/hd_rfen.htm

TIME: “100 PHOTOGRAPHS” 2015, page 174, claims that the picture with the cleared road, discovered as late as 1981 “*is thought to be the first*” of the two, and that this indicates “*that Fenton may have been one of the first to stage a news photograph*”. “Staged” in this context means adjustment of the location of, and possibly the number of cannonballs in the two pictures. A close study of the images on *TIME*’s website may support this theory, if we assume that a picture of a cleared road would not show more cannonballs in the hillside to the left. This picture does (minimum 6). Deliberately moving them from the road to the hillside after a battle makes no sense. Placing them closer to the foreground, plus (re)placing some 30 cannonballs in a section of the road does make sense, if the motive is to create a more dramatic image, indicating the damage done to men on horses advancing here when they landed (re: Tennyson’s poem, if this was *that* valley).

Would it be practically possible for Fenton to move these cannonballs around? Roughly counting, between 40 and 50 of them may have been moved, but not very far. British calibres were standardized by Colonel Albert Borgard in 1716; to 4, 6, 9, 12, 18, 24, 32 and 42 pounds, see:

<http://www.arc.id.au/Cannonballs.html>.

What we have here is hard to tell from the picture, more than one calibre is present, but a maximum of 18,9 kg pr. cannonball, probably less, makes the moving possible even if Fenton was alone. Based on these few facts one may conclude that the theory of Fenton having moved some cannon balls to get a more dramatic picture *might* be correct.

In his time such action would not be seen as controversial at all, see page 24.

However, according to Fenton himself in a letter to his family, there is nothing to indicate any “foul play”. He writes that he came with his van “*just about 3:00 p.m. ... We were there an hour and a half and got two good pictures, returning in triumph with our trophies.*” During the hour-and-a-half shoot, the late afternoon sun dropped further in the sky. This means that the shot with the clear road, having longer shadows, must be the latter of the two, see:

War/Photography, 2012: page 82 second column.

That should, perhaps, settle the dispute? (Clearing the road after a battle would always be the first step in retrieving cannonballs, an important job since they were valuable material and could be used again. We may assume that this work was in progress as Fenton arrived and continued during his stay at the scene. We may also assume that the work of moving cannonballs from the field closer to the road for retrieval by cart or wagon may have happened step-wise, possibly by tossing. This would explain hillside cannonballs not present in the first picture.)

This little discussion may also serve as an example of not taking the validity of any piece of information for granted, regardless of the source. Including, of course, this compendium.

P.22-24.

Brady:

<https://www.archives.gov/education/lessons/brady-photos>

Reekie:

<http://www.learnnc.org/lp/editions/nchist-civilwar/4601>

P.25.

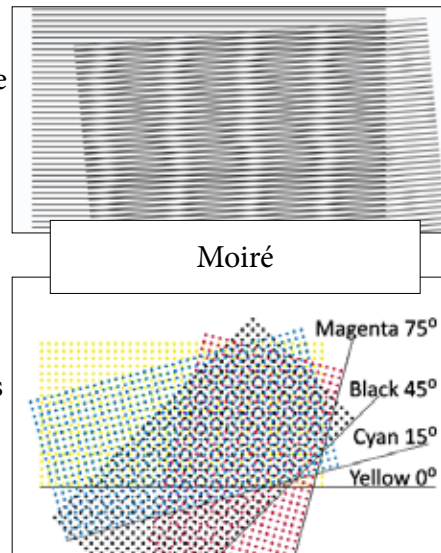
Xylographic clichés were carved into a block of hardwood, preferably boxwood, cut at right angle to the fibres. This end-wood surface was polished and painted for drawing, or given a coat of silver emulsion to get a photographic imprint directly on the block. Thin lines were then carved into the block, far apart where lighter tones were wanted and closer where darker areas were needed. Xylographic woodblocks are usually made up of a series of smaller squares or rectangles due to the generally minute dimensions of boxwood trunks and branches, see:

<http://www.visual-arts-cork.com/printmaking/woodcuts.htm>

P.26-27.

Raster: See: <https://snl.no/autotypi>

The line-raster half-tone printing technique triggered a revolution in the mass production of images, but it took several decades for it to reach perfection. One obstacle to colour printing is an effect called “Moiré” that occurs when lines or rows of dots almost but not quite parallel to each other are overlapping. Since colour printing is done by printing partially overlapping lines of dots of different colours, this problem is overcome by turning the raster lines about 30 degrees relative to each other, see: <https://www.wasatch.com/moire.html>



As for the spelling of “blacK”: This is just underlining that the contrast-giving colour black in the *subtractive* colour system CMYK is represented by its last letter “K”, since the “B” is already used to indicate the colour blue in the *additive* colour system RGB. It is a peculiarity of the printing trade.

P.28-29.

Dry plate use: The dry plates came in light-tight boxes, and had to be put into cassettes fitting the camera in question before use. Exposed plates were preferably put into a different box before developing, to avoid confusion. A camera with one or two cassettes could in this way be used for any number of exposures before the negatives were developed, for instance during a holiday or an expedition. Shoulder bags with one foldable camera and two or three double cassettes plus a tripod, also in a shoulder bag, were common equipment.

A **darkroom pouch** is a lightproof bag you may put your hands into, to handle light-sensitive material in broad daylight. It makes it possible to change film in cassettes, or load film into a development box without a darkroom. That is what it basically is: A portable darkroom. It was very useful for press photographers before the digital age, and still is, for enthusiasts.

Nadar:

http://www.metmuseum.org/toah/hd/nadr/hd_nadr.htm and: <https://publicdomainreview.org/collections/photographs-of-the-famous-by-felix-nadar/>

P.30.

Kodak:

<http://www.kodak.com/corp/aboutus/heritage/milestones/default.htm>

Goodwin/Eastman dispute:

<https://www.wired.com/2011/05/0502celuloid-photographic-film/>

P.31.

Brownie:

<http://www.brownie.camera/>

Ibsen profiling:

Larsen 2013: Ibsen og fotografene.

Napoleon III, Abraham Lincoln and Garibaldi profiling:

Frizot 1998: 106/107

Knudsen:

https://spesial.b.uib.no/?page_id=68

P.32.

Myubridge horse study:

https://en.wikipedia.org/wiki/Sallie_Gardner_at_a_Gallop

Astrophotography:

<https://en.wikipedia.org/wiki/Astrophotography>

P.33.

Lumiere films:

<https://www.youtube.com/watch?v=1dgLEDdFddk>

For more information on film history:
<http://www.earlycinema.com/timeline/>

For more information on film myths, see:
<http://www.documentary.org/magazine/lumiere-illuminated-moving-image-debunks-myths-surrounding-arrival-train>

Svensk Fotografisk Tidsskrift nr. 138, August 1896 reports on Lumiere's cinematography, as it has been demonstrated in Stockholm that summer. A sequence of smoking a cigar, played in reverse, is mentioned as remarkable. The article is illustrated by a cross-section view of the camera/projector.

P.34.

Early medicine:

https://en.wikipedia.org/wiki/Wilhelm_Röntgen http://www.slate.com/blogs/the_vault/2014/11/06/history_of_photography_in_medicine_19th_century_uses_of_daguerrotypes_in.html

X-rays are reported in Swedish Aftonbladet, quoted in Svensk Fotografisk Tidsskrift for January 15th. 1896. Röntgen's picture of the hand (xylographic) was printed in Buskerud's blad in Norway as early as January 31st. 1896. Early newspaper illustration: Sivert Aarflot Museum, Volda.

P.35.

Verdens Gang:

Ottosen 2010:131-132

P.37.

Commissioned photo: The picture shows a situation that is accessible, relevant and advertised. At the same time the situation would hardly have attracted a press photographer, which at that time, by the way, did not exist in Norway. Still it is clear from the quality that has been done by a professional. Notice the inclusion of the address on the bag to the right "Aales..."

Chliché services: *Johansen 2007: 82*. Here is a reference to the Norwegian company Hansen & Skotvedt in 1908 offering clichés via a Danish cliché pro-

ducer, of: "a large selection of the most actual persons and happenings" at a cost of kr.10 (\$2,5) pr. month.

Illustrations in Norsk Familie Journal from January 1903 show that an affordable international cliché service must have been available at least at that time. The extensive coverage of the Japanese - Russian war even from before it started (see headline of photos page 37. "from the East-Asian crisis) can hardly be explained in any other way. The newspaper illustrations are scanned from my personal archive.

Newspaper photos came gradually into use as illustrations, but also as evidence, and again; the weeklies and the monthlies were in the lead. The May edition of "Naturen", a monthly magazine published by Bergen Museum in Norway, presented the German aeronautic pioneer Otto Lilienthal and his invention over four pages with three autotypie printed photos. The magazine makes a point out of referring to the pictures as "moment photographs" by the well-known photographer **Ottomar Anschutz (1846-1907)**; providing fully accurate images of what Lilienthal's invention looked like in the air, see: *Naturen" 1894:147ff.*

A very early frontpage photo series in a daily newspaper came Thursday July 17th 1902 with The International Herald Tribune in Paris; its headline boasting that the downfall of the Campanile tower had been recorded by the "Herald's" photographer. This must also be a very early case of a daily newspaper mentioning that it actually employs a photographer, see: *The International Herald Tribune 1980: 19*

The press photo's role as evidence has been challenged many times, and it is vigorously protected in today's media.

Norwegian press photographer Johan Bruun commented once that the role of the press photo had been to prove that what the reporter wrote was true, see: *Aagaard et. al. 1986: 10.*

He hoped that people would start realizing that the press photograph told a different story, that it had an informative value in its own right. Personally, I feel he was optimistic and that we still have a way to go.

List of printed referenses:

- Aagaard, Rolf M. - Skau, Enok - Vik, Halvard (1986): Norske Pressefotografer. Oslo. J. M. Stenersen Forlag
ISBN 82-7201-042-9
- Aartun, Brynjulf (2008): Pressefotografene dokumenterer sin samtid. Journalisten nr. 4, 29. februar 2008
ISBN: none
- Belting, Hans (2011): Florence and Baghdad. Renaissance Art and Arab Science. Harvard University Press, Cambridge, Massachusetts, and London, England, English translation
ISBN978-0-674-05004-4
- Bergmann, Sigurd (2003)(2009) In the Beginning Is the Icon. London: Equinox
ISBN 978-1-84553-172-0
- Bordwell, David - Thompson, Kristin (1993): Film Art, an Introduction. New York: McGraw-Hill Inc.
ISBN 0-07-112943-X
- Brown, Blain (2012): Cinematography, Theory and Practice. Oxford: Focal Press
ISBN 978-0-240-81209-0
- Brunchurst, Dr. J. (ed.)(1894): Naturen. Illustreret maanedsskrift for populær naturvidenskap. Bergen Museum.
- Buzzi, Willy (1976): Hva er film
Regulus forlag W.B.
- Clarke, Graham (1997): The Photograph. Oxford University Press
ISBN 978-0-19-284200-8
- Eder, Dr. Josef Maria (ed.)(1888) Jahrbuch fur Photographie und Reproductionstechnik fur das Jahr 1888.
Halle a.S: Wilhelm Knapp Verlag
- Eder, Dr. Josef Maria (ed.)(1889) Jahrbuch fur Photographie und Reproductionstechnik für das Jahr 1889. Original-Beitrage, Fortschritte der Photographie in den Jahren 1887 und 1888.
Halle a.S: Wilhelm Knapp Verlag
- Eger, Vagn (1945); Foto-rariteter.
Oslo: Fabritius & sønners forlag
- Evans, Harold (1978)(1982): Pictures on a Page. London: Heinemann
ISBN 434-90553-4
- Frizot, Michel (ed.) (1998): *A New History of Photography*. Köln: Könemann Verlagsgesellschaft mbH
ISBN 3-8290-1328-0
- Hannavy, John (red) (2008): Encyclopedia of nineteenth-century photography
New York: Rutledge/Taylor and Francis
ISBN 978-0-41597-235-2
- Heiestad, Sigurd (1945): Bildet i Boken. Fra illustrasjonskunstens barndom i Norge. Oslo: Halvorsens Bokhandel og Antikvariat
- Holm, Yngvar (1999): Svært. Morgenposten - en gang Norges største avis. Oslo: Orion Forlag
ISBN 82-458-0406-1
- Ibn Al-Haytham (1040?)(1989) The Optics. English translation by I. Sabra
London: Warburg Institute
ISBN 978-0854810727
- Johansen, Tor Are (2007): Hett bly og raske presser. Pressehistoriske skrifter nr. 9
- Kobre, Kenneth (2008): Photojournalism, the Professionals' Approach. Burlington, MA: Focal Press
ISBN 978-0-7506-8593-1
- Langton, Loup (2009): Photojournalism and Today's News. Blackwell Publishing
ISBN 978-1-4051-7896-9
- Peter Larsen (2013): Ibsen og fotografene. Oslo: Universitetsforlaget
ISBN: 978-82-150-20150-0
- Larsen, Peter - Lien, Sigrid (2007): Norsk fotohistorie. Oslo: Det norske samlaget
ISBN 978-82-521-6291-2
- Lassen, Hartvig og Bull, Jacob B.(1891): Folkebladet, 12 årgang. Kristiania: Independent publishing

- Marchesi, Jost J. (1981): Fotolære. Yrkeslære for fotografer. Norsk utgåve -90.
Oslo: Rådet for videregående opplæring
ISBN 82-585-0204-2
- Myubridge, Eadweard (1957): *Animals in Motion*.
Mineola, N.Y.: Dover Publications
ISBN 0-486-20203-8
- Neuhauss, Dr. R. (ed.) (1898): *Photographische Rundschau*.
Halle a.S: Wilhelm Knapp Verlag
- Newhall, Beaumont (1964)(1972): *The History of Photography*.
London: Martin Secker & Warburg Limited
SBN 436 39640 9
- Norges Fotografforbund (1969): *Norsk Familiealbum*.
Oslo: Grøndahl & Sønns Forlag
- Norsk Fotohistorisk Forening (1980-1986) *Norsk Fotohistorisk Årbok*
Norsk Fotohistorisk Forening (1989 og 1992) *Bildet Lever nr. 5 og 6*
- Ottosen, Rune (red.) (2010): *Norsk Pressehistorie 1660-2010 (vol. 2)*
Oslo: Univeritetsforlaget
978-82-15- 01562-1
- Pressefotografenes klubb (1983): *Slik så vi det. 50 år gjennom kameraøyet*.
Oslo: j. W. Cappelens forlag A.S
ISBN 82-02-09072-5
- Preus Museum (2015): *En fotohistorie*.
Oslo: Forlaget Press
ISBN 978-82-7547-771-0
- Raynaud, Dominique (2016): *A Critical Edition of Ibn al-Haytham's On the Shape of the Eclipse*.
Cham: Springer
ISBN 978-3-319-42720-1
- Reiakvam, Oddlaug (1997): *Bilderøyndom Røyndomsbilde*.
Oslo: Det Norske Samlaget
ISBN 82-521-5032-2
- Roosval, Albin (ed) (1892): *Fotografisk Tidsskrift før Fackmän og Amatörer*.
Organ för Fotografiska Föreningen i Stockholm, Göteborgs Fotografi amatörförening, Föreningen "Amatør-fotografen" i Kristiania.
Stockholm: Independent publishing
- Roosval, Albin (ed) (1896): *Fotografisk Tidsskrift, nionde årgongen*. Organ för Fotografiska Föreningen i Stockholm, Svenska Fotografernas Förbund, Amatørfotografen i Kristiania, Göteborgs Fotografiamatörförening.
Stockholm: Independent publishing
- Sande, Øystein (2009): *Sivert Aarflot Folkeopplysningsmannen på Ekset*.
Volda: Høgskulen i Volda
ISBN 978-82-7661-281-3
- The International Herald Tribune (1980): *The Frontpage (third printing)*.
Neuilly-Sur-Seine Cedex: The International Herald Tribune
ISBN: None given
- Thompson, Kristin-Bordwell, David (1994): *Film History, an introduction*.
New York: McGraw-Hill inc.
ISBN 0-07-006445-8
- TIME: Goldberger, Ben (ed.) (2015): *100 Photographs*.
Tampa: Time Inc, Books
ISBN 13: 978-1-61893-160-3
- WAR/PHOTOGRAPHY images of armed conflict and its aftermath
Anne Wilkes Tucker and Will Michels with Natalie Zelt (2012)
Houston, The Museum of Fine Arts
ISBN 978-0-300-17738-1



Me proudly posing with my two Norwegian Daguerreotypes.

To the right is a poorly framed and slightly damaged portrait I found in an antiques dealer's junk-box in 1975 and have managed to preserve.

To the left a Daguerreotype reproduction of an early silhouette portrait found by a friend in a similar junk-box 40 years later, in original condition.

Somebody's junk is another's treasure; a saying these findings would support.

Models and photographers are regrettably unknown, for both. Still, they are valuable witnesses of our past, and that is one of photography's best features.

They do "preserve our memories"; to quote Kodak.

Personal/professional data:

Born in 1952, I took my first photograph in 1966, bought my first camera in 1967, sold my first picture in 1968 and produced my first newspaper in 1971.

I qualified as a professional advertisement photographer in 1976, as a certified craftsman in 1981 and as a certified Master Photographer after the title was re-introduced by national law in 1987.

I qualified as a teacher of professional photography in 1982 and based on that and extensive professional practice, was appointed as Assistant Professor at Volda University College in 2011.

In between these mile-stones I have had photography in most of its forms as my work and passion. Not very good at it, perhaps, but still trying. Portrait studio, newspaper, production of international video marketing material and TV as well as teaching has been part of my challenges, and it has been interesting.

Since 2003 I have been teaching practical photography and film in Volda, mostly to international classes.

It has been, and still is, a privilege.