

The 150th Anniversary of Photography

by Helmut Gernsheim

One hundred and fifty years ago last summer Joseph Nicéphore Niépce succeeded in obtaining a camera picture on a polished pewter plate, sensitized with bitumen of Judea. This material has the unusual property of hardening in light (not blackening like silver salts) but its light sensitivity is small. Niépce needed 8–10 h exposure in sunshine. He named his invention 'heliography'. After dissolving the unexposed parts of the picture in oil of turpentine and rinsing the plate, there remained, without the need for any other fixing, a permanent bitumen image of the light drawing, the shadows being indicated by the bare pewter plate. To avoid a lateral reversal of the view, Niépce had employed a prism in front of his achromatic lens. He had obtained both components from the Parisian optician Chevalier when he purchased his first professional camera in January that year. After using glass, lithographic stone and zinc for previous experiments, he had ordered the pewter plates in May 1826.

The 16×20 cm view (Figure 1) shows the courtyard of his country estate Gras in the village of St. Loup-de-Varennes, and was taken from an upper window. Niépce had taken the same view two years previously on lithographic stone, but this first attempt resulted only in a faint image, as we know from a letter to his brother Claude of 16th September 1824. The 1826 picture constituted his 'First successful experiment of fixing permanently the image from Nature'. Together with four heliographic copies of prints he left it in the care of Francis Bauer FRS, Kew, England, before returning to France at the end of January 1828. Niépce repeated the view once more on a copper plate in 1829, and sent it to Daguerre before signing a partnership agreement with him on 14th December. Neither the earlier nor the later picture has survived.

Niépce also succeeded in 1826 in producing on a pewter plate his best heliographic copy of an engraving, one of the Cardinal d'Amboise (Figure 2). He had this etched by Lemaitre, and two prints were pulled in February 1827. Prints were his desired end product for all heliographs, but the Cardinal was the only plate with a strong enough image, i.e. of sufficient exposure, to be etched. With this 20×14 cm photoetching, free from any manual afterwork, Niépce laid the foundation of photo-mechanical reproduction. In his memoir of 8th December 1827 to the Royal Society, Niépce stressed the importance of his invention not only in fixing an image through the action of light, but also in producing a print by etching the image afterwards.

My rediscovery of these three fundamental documents in February 1952 proved Niépce's invention of photography beyond any shadow of a doubt, eleven years before the first daguerreotype, and nine years before Talbot's first camera image. Previously, the year 1839 had been arbitrarily selected as the birthday of photography, on account of the publication in that year of both photogenic drawing and the daguerreotype process. Henceforth 1826 was considered as the correct date.

Only France took a different view, and celebrated the 150th anniversary in 1972, on account of George Potonniée's inscription on the Niépce monument, which had been erected on his advice in St. Loup-de-Varennes in 1933 to commemorate the 100th anniversary of the inventor's death. It says 'Dans ce village Nicéphore Niépce inventa la Photographie en 1822'. In that year Niépce had succeeded in obtaining on a bitumen-covered glass plate a reproduction of an engraving of Pope Pius VII. Although the heliograph got broken soon afterwards, its existence is well documented and one can argue that a permanent reproduction, made by the action of light, also constitutes a revolutionary invention. Of course, Potonniée could not foresee the rediscovery of an actual camera picture, nor did he live long enough to witness it. Had he done so, he might have changed his mind. I, at any rate, understand the word 'photography' as implying a permanent picture made by means of a camera, and today this definition seems also accepted in France. Why then, did some adhere to the old date of 1822? Charlatanism? Nationalism? Whatever the reason, they fell for the historically indefensible idea of ascribing to Niépce a mysterious still-life of a table laid for a meal, and dated it 1822. Now, what are the facts about this still-life?

In 1909 the original glass plate was lent by the French Photographic Society to a laboratory, to establish whether the sensitive layer was in fact bitumen or some other coating. Before an answer could be given the plate was smashed. Only a bad halftone reproduction made of it in 1891 remains. Potonniée stated that if this still-life was taken by Niépce at all, then it was done only as a demonstration under his partnership agreement with Daguerre in 1829. I also believed this for a time, but actually Niépce had used the repeated courtyard scene for this very purpose. For two reasons it is far more likely that the still-life constitutes an early experiment with heliography by Daguerre himself. Thus, in his memoir to the Royal Society, Niépce credits Daguerre with having advised him to return to

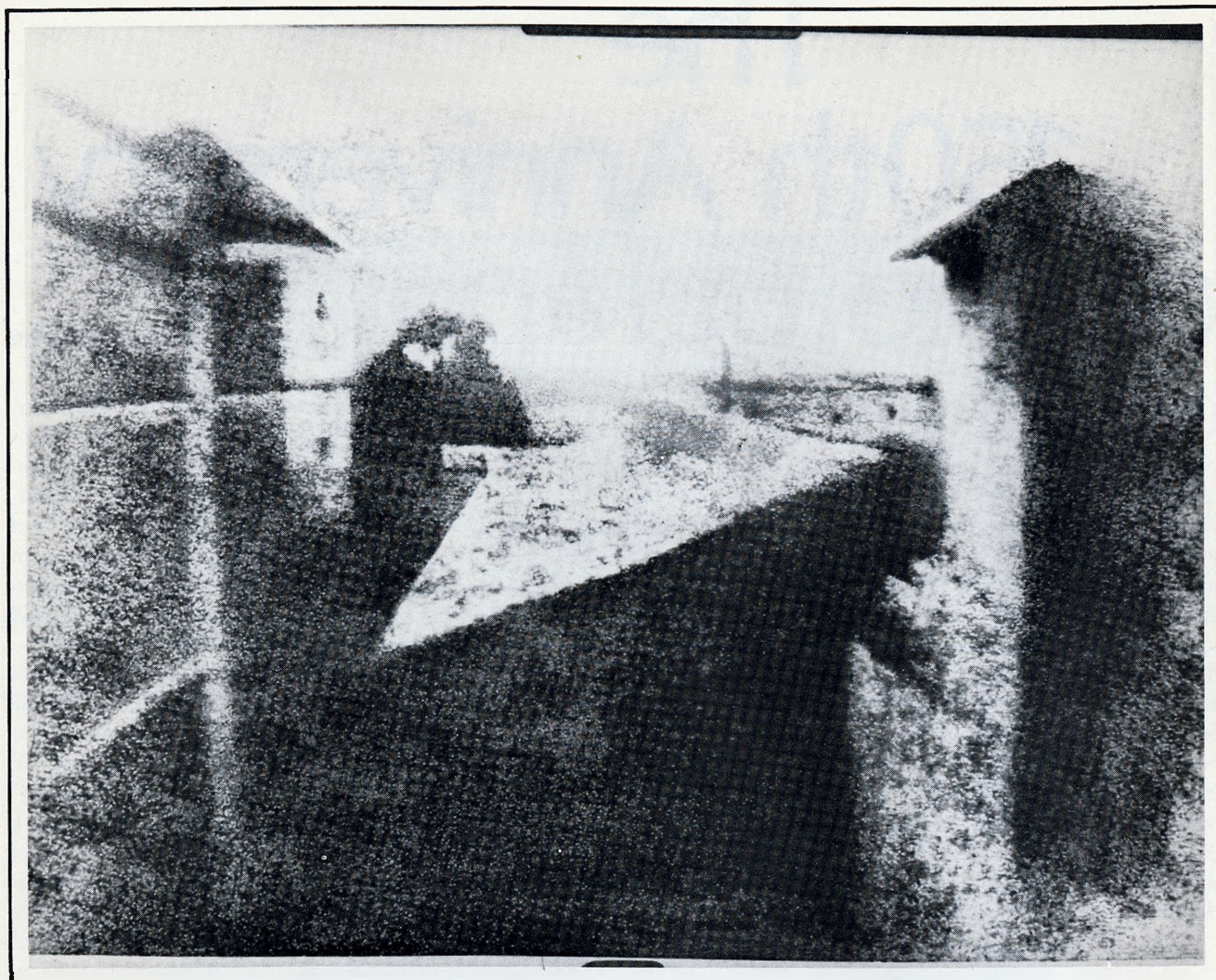


Figure 1. *The World's first photograph, taken by Nicéphore Niépce in 1826 on a pewter plate. Size of original 16×20 cm. The pointillistic effect is due to the reproduction process and not present in the original heliograph. The Kodak reproduction, which is a gross distortion of the original, was touched up by Helmut Gernsheim, to bring it as close as possible to the original, in March 1952. (Gernsheim Collection, University of Texas, Austin, Texas.)*



Figure 2. *Cardinal d'Amboise. Photoetching by Nicéphore Niépce. Size of original, 20×14 cm. The plate was produced on pewter in 1826: the print was pulled in February 1827. (Gernsheim Collection, University of Texas, Austin, Texas.)*

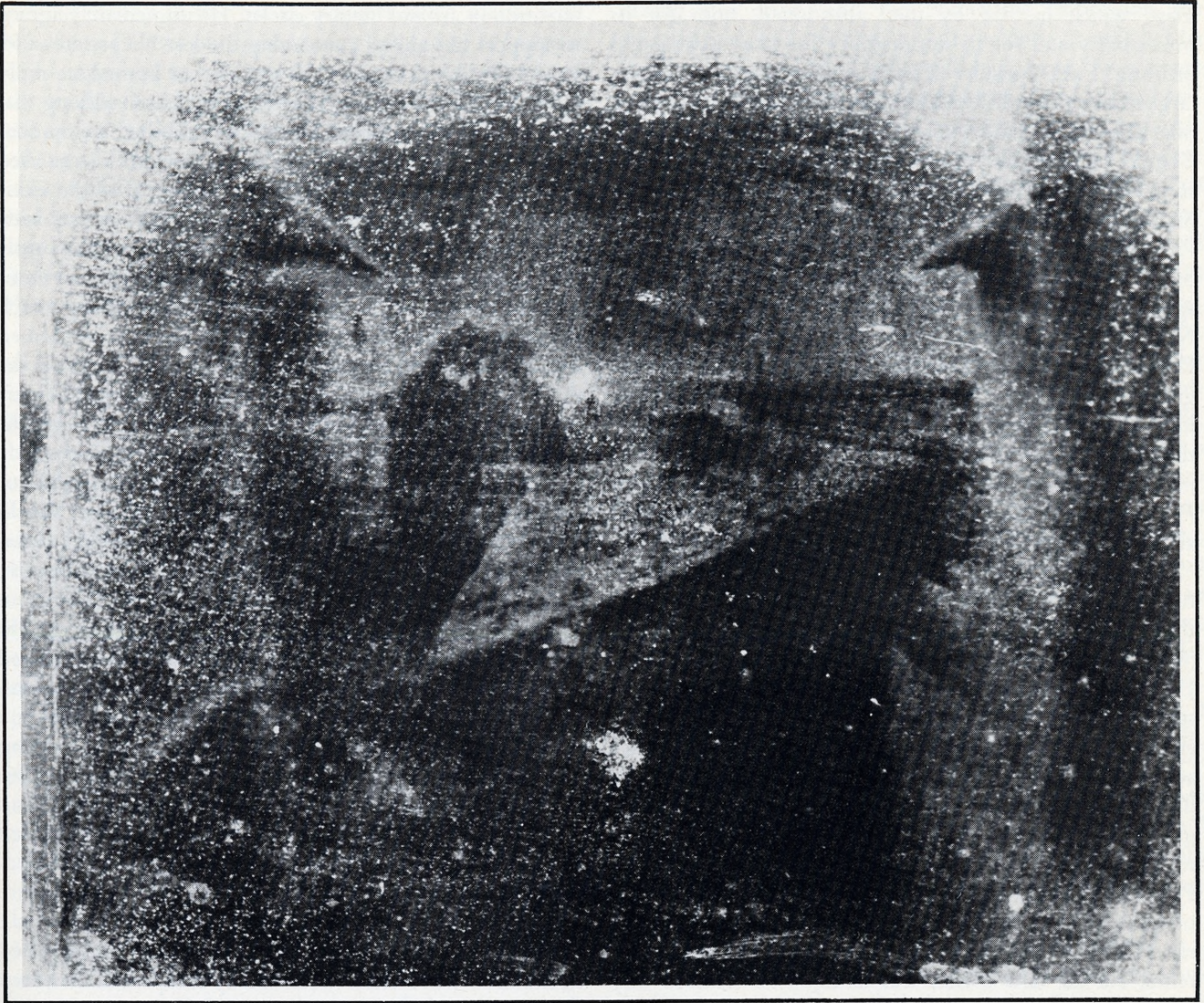


Figure 4. View of the courtyard in Niépce's country house Gras. Reproduction by the Kodak Research Laboratory in England, 20th March 1952. (Gernsheim Collection, University of Texas, Austin, Texas.)

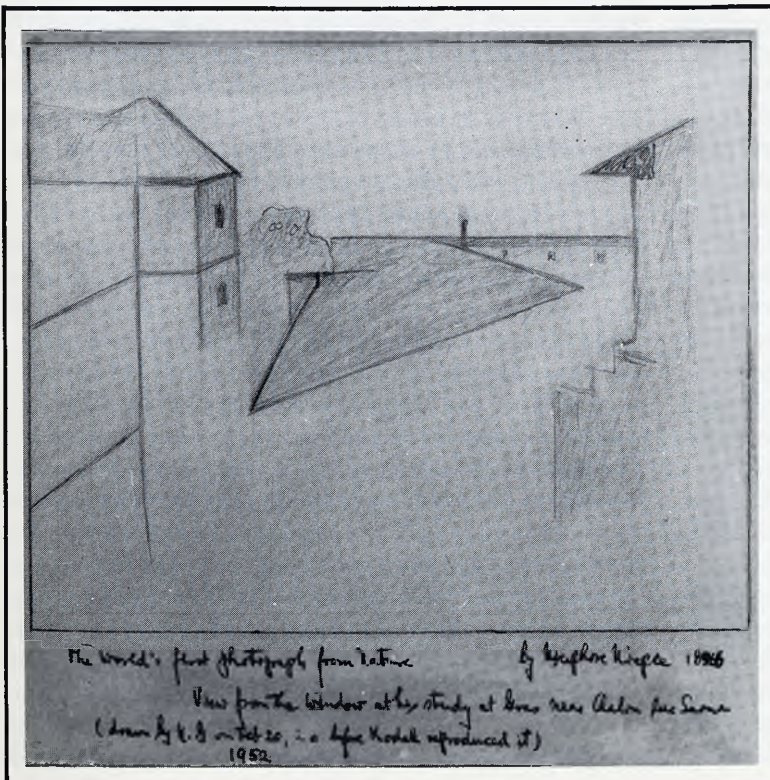


Figure 3. Drawing by Helmut Gernsheim of Niépce's heliograph, produced on 20th February 1952, a month before it was reproduced by Kodak, England. (Gernsheim Collection, University of Texas, Austin, Texas.)

glass, which he had by then abandoned, both for its breakability and for its unsuitability for later etching and printing. I also consider decisive the fact that we know a large number of still-lives by Daguerre, whereas not a single one is mentioned by Niépce in his correspondence with Claude. Nevertheless, over zealous admirers celebrated the supposed 150th anniversary of photography at Chalon-sur-Saône in 1972. Under the headline 'La premiere photo de l'histoire est une nature morte' the still-life was published by *Paris Match* in September 1972 (No. 1291) as a double spread with a portrait of the inventor, dated 1854 (although Niépce had died in 1833), and with Meade's portrait of Daguerre ascribed to Nadar (who did not take up photography until 1854)! *The Sunday Times*, London, celebrating its own 150th anniversary on 20th October 1972 found the still-life a welcome hook for its own story. [I feel in the more general context that this new journal, *History of Photography*, has an important task in combating falsehood and error before they spread and become ingrained.]

In three years of research my wife and I traced all the five heliographs Niépce had brought to England in 1827, their presentation to Bauer, their sale at his death in 1841 (for £14.4s.0d.) to Dr Robert Brown FRS, and finally to J. J. Bennett FRS. At Bennett's sale in 1884 the relics were split between H. P. Robinson and H. Baden Pritchard, editor of the *Photographic News*. In 1924, Robinson's acquisitions, three heliographic reproductions and one print of the Cardinal, were presented to the Royal Photographic Society by his son. The Society, in turn, lent them to the Science Museum, South Kensington, for exhibition. Pritchard had bought the camera picture, the second print of the Cardinal, and Niépce's manuscript memoir *Notice sur L'Héliographie*. They were the far more important relics, but the new owner was to enjoy his treasure only briefly, for a fortnight after the auction he died of a heart attack. Before his acquisition he had been propagating the Niépce image for over a decade as a picture of Kew Church, and had done so with such circumstantial evidence that J. M. Eder accepted it as fact in his *Geschichte der Photographie*, 1932 (English language edition, New York, 1945). Both Mr Pritchard's widow and Mr H. P. Robinson exhibited their treasures at the International Inventions Exhibition in London in 1885 and at the great retrospective Crystal Palace Photographic Exhibition in London in 1898.

It must not be assumed that all these facts emerged in their order of occurrence. Instead, there was a gradual unfolding of information in the most diverse places, information found while we were looking for something else, or in the catalogues just bought. One needs a trail before one can follow it, and we had none. In particular, we could find no further trace of the Pritchard items after 1898. In the hope of obtaining information from a descendant, or anyone else who might have acquired the treasure meanwhile, I sent a letter to *The Times* in April 1948, giving a brief history of the sequence we had established. Unfortunately, my appeal was ignored, as was a more urgent request in January 1950. Not long afterwards the art editor of *The Observer* made contact with me over my re-discovery of Lewis Carroll's hobby, which caused a

sensation in art and literary circles. He immediately agreed to support my appeal concerning the lost Niépce treasure. Its publication in April 1950 brought an immediate reply from Mr Pritchard's son, a piece of luck, considering that no less than four Sunday papers are published in London. Mr Pritchard remembered the Niépce relics, but asserted they had not been returned to his mother after the exhibition in 1898. Whether they had got lost or had been stolen he was unable to say, but he remembered how upset his mother had been. He could not remember to whom his mother had sent a complaint, and felt that my search would be in vain. This appeared to be final, and it seemed that I would have to accept the bitter truth. I closed the matter with a five-page report in July 1950 on 'Niépce's supposed-Kew photograph and other Niépce heliographs extant in Great Britain' for *The Photographic Journal*¹.

A year and a half passed. We were in the middle of preparations for the historical section of the World Exhibition of Photography in Lucerne, Switzerland, when one day my wife came running to me in great excitement, holding a piece of paper in the air, like Chamberlain in 1938, and shouted in triumph: "'The Niépce photographs have been found," writes Mrs Pritchard'. Dumbfounded I read that her husband had died some months before. Going through his estate, a big trunk that had been in a London depository since 1917 had to be opened. Among old clothes, books and other family relics belonging to his mother (who had died in 1917) Mrs Pritchard had found the Niépce items I had been searching for. She regretted to have to tell me that the picture had completely faded. There was nothing to be seen.

Impatient to see the treasure trove for myself, for I knew that a bitumen picture could not fade, I telephoned to enquire when I could come. A lady companion answered that Mrs Pritchard was in bed with a cold, but would write to me as soon as she was well again. A month passed. At last came the day which I shall never forget: 14th February 1952. The lady companion waited at the station with the car. To my question how Mrs Pritchard had remembered my name after such a long time, she told me they had gone through the entire correspondence with her husband during the last two years until they came upon my letter. Next I was burning to hear whether Mrs Pritchard intended to present the find to the Gernsheim Collection. 'I believe she will, but you have to convince her that this is the right place. She has a nephew who will inherit most things, and she has vaguely considered the Royal Photographic Society who, you said, owns the other half of the photographs. But then again she is aware that only you searched for them, and without your story in *The Observer* we would not have known what they were.' Delighted to find such strong support I wanted to know whether Mrs Pritchard had actually heard of my collection. 'Of course,' she assured me, 'Your Festival of Britain exhibition last summer did not remain a secret, neither did your amazing discovery of Lewis Carroll's photographs. The papers were full of it.' We had arrived at the house.

During lunch I had to tell the ladies about my collection, how I found the Carroll albums, and what had given me the idea to search for the Niépce pictures. They ex-

pressed interest in my books, which I said I would send. We chatted about our forthcoming exhibition in Lucerne, and I promised to take greetings to a relation, director of the leading hotel there. Meanwhile coffee was served in the sitting room and the great moment could not be far off, when Sherlock Holmes II would at last be allowed to inspect the treasure he had been trailing for six years. Reading my thoughts Mrs Pritchard got up, handed me a handsome mirror in a broad gold frame and said 'That's it. You will be disappointed, but I had warned you that there was nothing left of a picture'.

I was startled. I had not expected a looking glass, nor an Empire frame in which the pewter plate lay like a painting. I went to the window, held the plate at an angle to the light, as one does with daguerreotypes. No image was to be seen. Then I increased the angle—and suddenly the entire courtyard scene unfolded itself in front of my eyes. The ladies were speechless. Was I practising black magic on them? Then I turned the picture and read Francis Bauer's French and English inscription: 'Monsieur Niépce's first successful experiment of fixing permanently the image from Nature', and the date below, 1827. Only a historian can understand my feeling at that moment. I had reached the goal of my research and held the foundation stone of photography in my hand. I felt myself in communication with Niépce. 'Your nightmare existence in a trunk is over,' I thought. 'Potonniée was right. At long last you will be recognized as the inventor of photography. This picture will prove it to all the world.'

Addressing the ladies I said: 'This find is of the utmost importance for photography. It proves Niépce to have been the inventor, advances the date of the invention from 1839 to 1826, and, last but not least, establishes the correct subject. The Kew Church idea had been for so long a phantom in your father-in-law's mind that not even his wife believed him when he changed his opinion a few days before his death. But it isn't the view Lecuyer had imagined it to be either, for it shows the courtyard of Niépce's country house, as I predicted nearly two years ago. May I have your permission to take these three incunabula with me, and reproduce them for my intended publication? For 125 years these vital documents had been in Britain, but not one of the former owners had taken the trouble to investigate them'. 'A splendid idea', replied Mrs Pritchard, 'but tell me why did you mention 1826 as the date of the heliograph when the label says 1827?' I explained that 1827 was the date of presentation to the Royal Society, and the handwriting that of Bauer, not Niépce's. 'If the picture was taken on a pewter plate, which has still to be established, the date is almost certainly 1826. For in that year Niépce had bought his first professional camera and pewter plates. He was anxious to try them out, and why should he have waited for a year before making an experiment? Moreover, we know that his best reproduction ever, the Cardinal, was taken in 1826 on a pewter plate, and so I see no reason to assume that this view was made later'.

Anticipation of my triumph as a historian brought me back with a jolt to my dilemma as a collector. The die was not yet cast. Remembering the lady companion's remark

during the drive, and the favourable impression the examination had obviously left behind, I asked Mrs Pritchard point blank: 'What will happen to this treasure trove after my publication? For 54 years it was lost sight of. Don't you think they should now enter a photographic collection and be secured there for posterity? You have read of my attempts to form a National Collection. That of the Royal is not open to the public, and from my experience as a member—I am a Fellow—I am aware of their difficulties to find anything I want to see. I intend to arrange an exhibition every year in a different country. How wonderful it would be to start it with Niépce. Daguerre and Talbot are already represented.' I paused for a possible reaction. In the absence of a remark I continued: 'Gutenberg's monument of printing, the 42-line Bible, exists in at least six copies. This first photograph is unique. It must not get lost again.' My comparison with Gutenberg startled her to enquire: 'How much do you think the photograph is worth?' 'Priceless,' I replied. 'Whatever sum I might name you, *after* my publication someone will probably offer you more. Or, if not then, in ten or twenty years' time. But, if you take this picture *tomorrow* to any picture dealer you know, he will offer you ten shillings for the frame and throw the plate away. Like you, he will say: "I am afraid this is only a mirror. I can't offer this to anyone as a photographic picture, madam. Not even Mr Gernsheim would buy it."' Turning to her friend, Mrs Pritchard said: 'I think Mr Gernsheim has a good point there, don't you think?', and then to me: 'You have pleaded the cause very well. I am sure no one could look after these historic items better than yourself. You shall have them'.

That evening my wife and I celebrated the event. It is not always that research leads one to the goal, and ours had been royally rewarded. I kept the discovery secret until I was in possession of a reproduction. This was to prove, however, far more difficult than my experience with daguerreotypes had led me to assume. I took the plate out of its frame, cleaned the protecting glass and the dusty edges of the image. Having been hardened by light the bitumen layer itself was not sensitive to touch like a delicate daguerreotype image. Yet try as I would I only obtained a reflection of my camera front. The image was simply too weak and, despite the 8–10 hr, greatly underexposed.

Realizing that I would have to hand the picture over to a research laboratory, I considered it wise to make a drawing of the scene in the original size (Figure 3). Niépce's labour had suffered enough from other people's stupidities, and I was not going to take a chance with this crucial document. Then I wrote to Scotland Yard, told them of my problem, and asked for their assistance. 'Your laboratory is so well equipped and your photographers so expert in detecting invisible spots, scratches, hair, and fingerprints where the eye can see nothing at all. The Niépce photograph bears a clearly recognizable image, and though I cannot reproduce it, it should be easy game for your people.' Reply: 'If your photograph were to provide key information in a criminal law case, or could clarify a disputed scene in a legal claim, we could probably offer our collaboration. We are sorry to say that private affairs are

outside our scope, even if the reproduction proves to be of general historic interest as you say.'

Disappointed I swallowed my pride and went to the office of the all-powerful *Times*. I laid the picture on the desk of the science editor and said: 'This is the first photograph ever taken. It was made by Niépce in 1826 and he is the inventor, not Daguerre. If you had trusted my research and published my letter four years ago this heliograph might have been tracked down in 1948. Despite this I am prepared to offer *The Times* first publication rights, but your people will have to reproduce the picture. I can't.' Picture editor and photographer were summoned. One look was enough for their pronouncement: 'Impossible.' I had expected this, and told them of my attempt to get Scotland Yard involved in this matter, adding: '*The Times* no doubt stands a better chance there than I.'

In the street I considered my next step: 'As I am in town,' I thought, 'why not call in at the National Gallery? Their studio is equipped with ultraviolet and infrared light which enables them to discover original designs under later overpaintings. Perhaps they have a solution to my problem.' As I knew the gallery's director I was assured they would try, though without assurance of success. By next day I heard of their failure, but there was a new ray of hope. Kodak had been consulted, and the director of the Research Laboratory was willing to examine the problem and see what could be done. Someone would come from Harrow to collect the picture, if I authorized the gallery to hand it over. I informed Kodak, and asked that the metal be tested while the picture was in their care. Was it pewter, or perhaps zinc which Niépce had employed in earlier experiments?

Soon afterwards I heard from *The Times*. My suggestion of involving Scotland Yard had not been lost on the editor, and he had arrived at a typically English compromise. Scotland Yard saw no reason why one of their experts should not try to photograph the picture at the editor's office in his spare time. I thanked them for the offer, and mentioned that the Kodak Research Laboratory had meanwhile assumed responsibility. 'If the giants of the photographic industry,' I added, 'are incapable of reproducing the first photograph, then they can pack up. They will feel in honour bound to produce a result, whatever the efforts.'

The attempt to produce the picture in the normal way failed completely. After three weeks of trial and error Mr P. B. Watt, who was in charge of the difficult task came to the conclusion that the only way of achieving a reproduction was to photograph the plate under the same angle of c. 30°, at which one could see the image with the naked eye, using strong side lighting and a high contrast plate. Subsequently the greatly distorted image had to be realigned in an enlarger, whereby the pin-cushion aberration of Niépce's achromatic lens was not exactly improved. But, worse than that, dust particles and the unevenness of

the pewter plate, not apparent to the eye, became grossly exaggerated features under sidelight (Figure 4). I was very disappointed, for the reproduction in no way corresponded with the original. I spent nearly two days trying to eliminate with watercolour the hundreds of light spots and blotches, and my spotting certainly resulted in a more uniform and clearly defined image. All the same, my reproduction was only an approximation of the original. Its pointillistic effect is completely alien to the medium, for the silver-grey surface of the Niépce photograph is as smooth as a mirror. (Compare Figures 1 and 4.)

On 21st March 1952 I reproduced my corrected version and made copies for the press. In the enlarger I held back the sky, the roof of the barn and a few other features that were bright in the original, not black (see Figure 1). It will be noticed that my corrected photograph comes rather close to the drawing I had made a month before any reproduction existed. Yet, because it became known that I had touched up Kodak's reproduction some people, ignorant of the original plate, misconstrued my intention, believing I had been trying to improve upon Niépce, whereas I had merely been trying to improve upon Kodak, to restore Niépce! Ever since Dr R. S. Schultze drew attention to this, some people have deliberately reproduced the Kodak version² which is a travesty of the truth. No blame attaches to Mr Watt for that; his photograph is the result of the unnatural methods which had to be adopted to get any result at all.

It was not easy to co-ordinate the first three publication dates of the rediscovery in *The Times*, *Picture Post* and *Life* (Continental edition), for the illustrated weeklies require much longer advance preparation of their picture stories than a daily. Moreover, they are published on different days. Eventually, it was agreed among all concerned that *The Times* should break the news on 15th April, and that the other newspapers and illustrated magazines should follow directly afterwards. Heliograph, Cardinal print and the memoir were, for the first time in this century, exhibited by us at the World Exhibition of Photography in Lucerne, from May to August 1952.

May I conclude on a personal note. Museums and other public institutions often turn gifts into cash when it suits them. I wanted to avoid anyone saying the same of me. So I passed my priceless Niépce items on to the University of Texas as I had received them, without valuation, when the Gernsheim Collection was acquired by that institution in 1964 •

REFERENCES

1. *The Photographic Journal*, Section A, London (January 1951).
2. Some of those that have come to my notice are:
The Photographic Journal, London (April 1967).
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