

# COLLODION <br> on PAPER NEGATIVE 

A French countryside in the 1850's

This is a fascinating group of 46 images, mostly comprised of rare photographic processes and dating from the 1850s and 60s, but with a few later images continuing into the 1890s. The photographer is identified by a monogram, $A B$, which appears on several negatives and is expanded to the name, A Boz or A Bon on a single albumen print (positive 1). Inscriptions identify many of the locations and all are in France, situated to the South East of Lyon/North West of Grenoble, somewhat closer to Grenoble than Lyon.
The earliest image is a waxed paper negative of a rural avenue.
This measures 7 " x $91 / 2$ " and probably dates from the 1850s (negative 1).
Closest in date and of a similar size are negatives 2 and 3. These are an unusual pair. They both show a landscape with watercourse, trees and distant large building, but taken on different occasions (the water level in the foreground is very much lower in one). On negative 2 the paper support has a strange discoloured and mottled appearance unlike the waxed paper of the other negatives. In appearance it most closely resembles some of the supports used by Stéphane Geoffray. Geoffray invented several negative processes starting with the Cerolein process (first published in 1854) but it is one of his processes from 1856 that is most relevant here. This "process required a preliminary step in which sheets of paper were soaked in a solution of gutta-percha dissolved in benzene and hung to dry. (The gutta-percha formed an impenetrable coating that kept the later formation of a light sensitive surface entirely suspended above the paper - further augmenting light sensitivity and precision of detail.) Next, a weak paste of glycerine was applied to a sheet of glass and a sheet of the prepared paper was placed upon it. Iodised collodion was spread over the sheet of paper adhering to the glass, and the paper was removed and plunged, face-up, into a silver nitrate bath. The sensitive surface having been formed, the paper was briefly rinsed in water and replaced upon the glycerine coated sheet of glass. Following exposure, development and fixing - which were identical to the wet collodion process - the paper was removed from the sheet of glass and washed, dried and waxed like a typical paper negative." This description fits this negative.

1. Encyclopedia of Nineteenth-Century Photography, edited by John Hannavy, Routledge, 2007, ISBN-13 978-0415972352 ISBN-10: 0415972353, article on Geoffray by Alan Greene, page 578.

In contrast, the image on negative 3 is laterally reversed, has a thin, uneven organic coating on its surface and waxing typical of that usually encountered with paper negatives. The image is reversed as this is a collodion transfer from a glass support to paper. Although taken in the same season as negative 2 (the trees are bare in both images), the numbers on the negatives are widely separated: 324 and 69 on the first, 113 and 17 on the second ${ }^{2}$.

Collodion transfers were patented by several inventors in the 1850s including Frederic Scott Archer and the Reverend J B Reade (both in 1855), Alexander Parkes (1856) and J A Ferrier (1857) ${ }^{3}$. The advantages of transfer are usually listed as the significant reduction in weight, the saving in space and the elimination of the fragility of glass. There are also some advantages when retouching/manipulating images. Despite these benefits the process was never widely employed and examples today are very rarely found. Excitingly, this group of negatives largely consists of collodion transfers.
The photographer seems to have followed Ferrier's method (patented September 1857) but with variations. Gernsheim describes Ferrier's procedure thus, "... a sensitive surface was formed on plain collodion which had been spread on a smooth surface of gelatine, gutta-percha, starch, or similar material and coated with albumen and sensitised. After washing and drying, this compound film was attached to a glass plate to facilitate exposure and processing. Afterwards a solution of gelatine was poured over the negative and when dry, the top three layers were detached from the smooth gelatine or guttapercha surface which remained on the glass. The albumen picture was thus sandwiched between a layer of collodion on one side and a layer of gelatine on the other." ${ }^{45}$
2. The negatives are numbered, often more than once, but these numbers relate to the location rather han giving a chronology of exposures. A contemporaneous paper wrapper, included with the group, lists 24 negatives and four locations. Just two correspond with negatives in the group.
3. The History of Photography, Helmut and Alison Gernsheim, Thames and Hudson, London, 1969, ISBN 10:
0500010609 / ISBN 13: 9780500010600 , page 405.
4. Ibid.
5. Ferrier's method produces what is essentially 'dry' collodion. Dry collodion is where the wet collodion is coated with a layer such as albumen to prevent the collodion drying into an impermeable film (which would prevent the exposed image being developed and fixed). Collodion negatives treated in this way can be exposed and processed up to a few weeks later but extending the time for processing in this way comes at a price, the negatives are less sensitive. Exposure times are often increased by six times what they would be for a wet collodion negative. Unsurprisingly, therefore, these negatives are all landscapes Not all appear to be dry collodion though, sometimes the exposure is probably too brief to be dry collodion, for example a crisp image of smoke from a chimney.

How can we tell they are collodion transfers and more particularly following Ferrier's method? Many negatives have been imperfectly transferred with small areas around the edge becoming folded over during the process. In many cases the collodion has folded so that it is sandwiched between the main body of collodion and the waxed paper, something that could only have happened during transfer. In some instances the negatives have suffered small losses of collodion which reveals what looks like a supporting layer of gelatine. Furthermore, traces of a soluble release layer are present on the face of the majority of the negatives. Often this has the appearance of starch. Furthermore, the edges of the collodion have been trimmed off to facilitate separation from the glass. This had to have happened before the collodion was applied to the paper which is larger than the collodion.

Given that negative 2 follows one of Geoffray's processes of 1856 and negative 3 seems to follow Ferrier's patent of 1857 these two negatives date from no earlier than late 1857. The absence of leaves on the trees would perhaps point to the autumn, or more likely, spring on 1858, though of course a later date is possible.
There are a few more negatives of the same size, all collodion transfers, and then the photographer seems to have switched to using the smaller 5 " x $61 / 2$ " format. Perhaps this was a further move to reduce weight. These negatives will be no earlier than the end of the 1850s and may well date from the 1860s. The presence of identifiable buildings under construction (negative 24) should help with dating.

The most obvious departure from Ferrier's transfer method is one experimental negative which is sandwiched between the waxed paper and a layer of tissue paper (Negative 18, 'St Sixte Eglise de la Crypte'). In this case, the tissue paper has been added to the collodion after processing but before transfer and is not perfectly adhered; there are many small areas with air between the two layers. If the tissue paper was intended to strengthen the collodion during detachment and transfer it was a failure as there are seven areas of image loss on the negative which the photographer has had to retouch.

Other negatives have had a varnish coating applied after transfer (e.g. numbers, 20, 22 and 36). One (number 21) has a waxy coating. Several have been transferred to plain, i.e. un-waxed, paper (numbers 10, $11^{6}$ and 23 to 26). Printing from negatives on un-waxed paper produces inferior positives.

[^0]Could these negatives have been printed from while on glass and afterwards the collodion simply transferred to save space?

Clearly the photographer is an amateur experimenting with the transfer process and developing their own technique. Another extremely rare process found in the group is a gelatine emulsion negative on cast gelatine film (negative number 40). This is probably rather later than the other negatives but reveals the photographer's ongoing interest in avoiding the use of glass as a permanent support. Interestingly, Stéphane Geoffray also worked with gelatine as a photographic support from 1874 but in his case with collodion emulsion rather than gelatine.
The photographer did not just experiment with negative processes; the few positives that are present are bizarrely varied and include:
a waxed albumen print (positive 2). Sometimes prints were waxed for display purposes, usually being coloured on the verso first, but this print has not been so coloured. Sometimes waxing was to allow a printing plate to be made. On other occasions the print is an inter-positive to be followed by a copy negative. At present we cannot know why this print was waxed.
what appears to be a developed-out albumen print on very thin paper (positive 4). The paper has been waxed to improve transparency (the wax does not reach all the edges) and given an organic coating, which is now flaking off. In this case we have an additional clue as to the purpose of the print; red watercolour has been added to part of the verso. This locally alters the printing properties, therefore we know that this is not the final image, rather an inter-negative.
a collodion positive on a black substance on plain paper (Positive 5). The surface has a gelatine coating, the lower right corner of the image layer is folded and bunched up. Clearly this is another transfer like most of the negatives. This may have been an in-camera direct positive transferred from glass or metal onto the final paper support.
The other positives present are more mainstream: three albumen prints (positives 1, 3 and 6), and an Imperial cabinet card format, collodion printing out paper which probably dates from the 1890s
Considering the group as a whole, one sees a photographer active for approximately 40 years, from the 1850s to the 1890s, who is interested in experimenting with different positive and negative processes, and consistently favouring paper over glass. There are clear parallels with the work of

Stéphane Geoffray, the use of:

- one of Geoffray's negative processes,
- the later use of cast gelatine film as a photographic support,
- the transfer of many collodion negatives from glass to waxed paper, something Geoffray carried out on possibly all his negatives on glass.
The period of activity is also similar, the 1850 s to 1890 s.
However, there are differences; Geoffray of often retouched his negatives before transferring them to paper. The retouching therefore ends up between the collodion layer and the paper. This has been a common cause of flaking in Geoffray's negatives. Also the retouching media are different. A more important difference is that Geoffray concentrated on recording historic buildings and archaeological finds. In contrast, this photographer took many picturesque landscapes influenced by the Barbizon school of painters.
Nevertheless there may be a connection. Geoffray lived for a long time in Roanne, about 87 miles/ 140 kilometres from the area our photographer was working in. It is possible the two photographers knew each other or at least corresponded.

Let me emphasise that this is just an initial, quick assessment. There is more information to uncover. No mention here is made of the negatives that appear to have been intensified for example. Instrumental analysis would reveal more subtleties in the photographic processes and may strengthen (or weaken) the link with Geoffray's work. More work on dating images from the construction date of industrial buildings should be possible and it should be possible to find out more about the photographer.

Nicholas Burnett Photographic conservator



negative 3

negative 6




negative 9


At frum ) Cixtamit.

negative 12

negative 13

negative 14



negative 23

negative 18

negative 19



positive 3


## NOTES

Sizes are sheet sizes, images are often a little smaller. Almost all the sheets are irregular in size.

## Negatives

Negative 1, View of a country road leading to cliffs, waxed paper negative, $178 \times 239 \mathrm{~mm}$
Negative 2, landscape with river, tree and distant building, probably Stephan Geoffray's second process of 1856, collodion negative, inscribed 324 in iron gall ink on the verso and 69(?) in graphite, $226 \times 166 \mathrm{~mm}$

Negative 3, similar view to the above (negative 2) landscape with dry riverbed, tree and distant building but laterally reversed, collodion negative transferred to waxed paper, inscribed 113 in iron gall ink and 17 in graphite on the verso, $232 \times 172 \mathrm{~mm}$.

Negative 4 landscape with road and chateau, collodion negative transferred to waxed paper $169 \times 228 \mathrm{~mm}$, inscribed 265 in iron gall ink and 24 in graphite pencil. Sky coloured with watercolour recto and verso.

Negative 5, View of a house across a lake, collodion negative transferred to waxed paper, $171 \times 231 \mathrm{~mm}$, inscribed 249 in iron gall ink and AB in graphite pencil on verso. Watercolour added to verso to create clouds. Graphite pencil crop marks on verso. Lower right hand corner some collodion displaced during transfer.

Negative 6, 'Chateau de Beegue Voiron' (South East of Lyon), collodion negative transferred to waxed paper - a small piece of transferred emulsion is caught under the top left corner. $126 \times 182 \mathrm{~mm}$, inscribed 56 in red pencil on verso, uneven coating visible on surface.

Negative 7, 'Voreppe' (South East of Lyon), collodion negative transferred to waxed paper, $126 \times 174 \mathrm{~mm}$ inscribed 23 in red pencil on verso and 36 in graphite pencil, watercolour over sky on verso. One small area of collodion folded under in lower left corner.

Negative 8, 'Chateau de St Nicolas' collodion negative transferred to waxed paper - a small length of the edge of the negative is caught between the waxed paper and collodion at the top right hand corner. $130 \times 175 \mathrm{~mm}$, inscribed 57 in red pencil on verso, fairly even coating on the face which is probably gelatine.

Negative 9, 'La Sône' (South East of Lyon), collodion negative transferred onto the waxed paper - a small section of the collodion is folded under and caught between the waxed paper and collodion near the top left hand corner. $128 \times 174 \mathrm{~mm}$, fairly even coating on the collodion which is probably gelatine and projects over the lost collodion in the top left corner.

Negative 10, 'A' St Pierre d' Entremont' (South East of Lyon), collodion negative transferred to plain paper (possibly wet collodion due to the short exposure time, the smoke is caught quite well), $138 \times 175 \mathrm{~mm}$, inscribed 12 in red pencil on verso. Possibly part of a panorama with the image below.

Negative 11 [St Pierre d' Entremont] collodion negative transferred to plain paper, part of the collodion is folded under at the lower right corner (possibly wet collodion due to the short exposure time, the smoke is caught quite well), $139 \times 179 \mathrm{~mm}$ (irregular), inscribed 10 in red pencil on verso. Possibly part of a panorama with the image above.

Negative 12, 'Les Comtes de la Buisse' (South East of Lyon), also inscribed 23 in graphite pencil, $126 \times 172 \mathrm{~mm}$, on margins. Collodion negative transferred onto waxed paper. Very dense negative, probably intensified.

Negative 13, 'L'etang Dauphin' (S E of Lyon), also inscribed 26 in graphite pencil, $102 \times 176 \mathrm{~mm}$, collodion negative transferred onto waxed paper, watercolour on verso to create clouds when printing.
Negative 14, 'Voreppe' (South East of Lyon), collodion negative transferred onto waxed paper, $102 \times 174 \mathrm{~mm}$, inscribed 72 in red pencil on verso and 33 in graphite pencil. Watercolour over sky on verso. Small area of wrinkled collodion in lower left corner (photo taken). Two losses of collodion in the centre.

Negative 15, indistinct title, church and tree. Collodion negative transferred onto waxed paper $188 \times 139 \mathrm{~mm}$, inscribed 39 in red pencil on verso. Traces of starch (?) on recto.

Negative 16, 'La Garenne Voiron' (South East of Lyon), collodion negative transferred onto waxed paper, $117 \times 181 \mathrm{~mm}$, inscribed 13 in graphite pencil.

Negative 17, 'Grand Begardou Voiron', also inscribed AB and 4 in graphite on verso, collodion transfer to waxed paper, $168 \times 123 \mathrm{~mm}$.

Negative 18, ' St Sixte Eglise de la Crypte', also inscribed 18 in graphite pencil on verso. Collodion negative transferred onto waxed paper with a second sheet of thin paper on the face (the negative is sandwiched between paper layers), losses of collodion during transfer retouched on verso in watercolour and graphite pencil. $128 \times 179 \mathrm{~mm}$.

Negative 19, 'Voreppe' (South East of Lyon), collodion negative transferred onto waxed paper,
$126 \times 173 \mathrm{~mm}$, inscribed 24 in red pencil on verso and 58 in graphite pencil. Watercolour over sky on verso. Small area of displaced collodion in top left corner. Area of missing collodion in lower left corner with gelatine layer showing. Traces of gelatine (?) coating over surface.

Negative 20, 'Voreppe' (South East of Lyon), collodion negative transferred onto waxed paper,
$111 \times 172 \mathrm{~mm}$, inscribed 73 in red pencil on verso and 34 in graphite pencil. Watercolour over sky on verso. Small area of displaced collodion in top left corner. Area of displaced and scrunched up collodion in lower right corner. Organic coating over the entire surface (varnish) and the blank margins.

Negative 21, 'St Egreve' also inscribed 'AB' and '6' in graphite pencil on verso. $120 \times 167 \mathrm{~mm}$. Collodion negative transferred to waxed paper. Red watercolour on the verso of the sky. Coated with an organic coating which is now yellowing.

Negative 22, church with two figures, collodion negative transferred onto waxed paper, $175 \times 125 \mathrm{~mm}$, inscribed 17 in red pencil on verso, uneven coating on top which is lifting and cracking (albumen?). The coating spreads over onto the waxed paper margins. Corners of emulsion folded over. Not fully anchored to the support.

Negative 23, 'Jean Boyans, Construction de l'aqueduc du canal d. la Drôme Bourse'(?) , collodion negative transferred to plain paper, $138 \times 184 \mathrm{~mm}$, inscribed 29 in red pencil on verso. Part of collodion in top left corner folded under during transfer.

Negative 24, 'Part ou Mr Jean en Boyans' collodion transferred to plain paper, part of collodion folded under, image laterally reversed (CAFE VISTEL back to front), $1371 / 2 \times 177 \frac{1}{2} \mathrm{~mm}$ (irregular), inscribed 30 in red pencil on verso. Part of collodion in lower right corner folded under during transfer.

Negative 25, similar location to the above. Collodion transferred to plain paper, part of collodion folded under, image laterally reversed (CAFE PANSEY back to front), $184 \times 141 \mathrm{~mm}$, inscribed 27 in red pencil on verso. Part of collodion in lower left and top right corner folded under during transfer.

Negative 26, View of a river and a suspension bridge. Collodion transferred to plain paper $139 \times 171 \mathrm{~mm}$ (irregular), inscribed 28 in red pencil on verso

Negative 27, 'Le Bret', view into a rocky gorge. Also indistinct inscription in blue pencil on verso. Collodion transferred to waxed paper, top left corner of collodion folded under during transfer, $140 \times 188 \mathrm{~mm}$.

Negative 28, view of a large house with corner towers. Indistinct inscription in blue pencil on verso (same as the above) 41 in red pencil. Collodion transferred to waxed paper, $140 \times 190 \mathrm{~mm}$, possible starch residues on the entire surface.

Negative 29, A lane with dry stone walls, trees, hills and a small building, $142 \times 182 \mathrm{~mm}$. Collodion transferred to waxed paper, indistinct inscription in blue pencil on verso (same as the above), 53 in red pencil. Possible starch residues over the entire surface. Small area of collodion folded under during transfer at the top left corner.

Negative 30, View of a bridge, probably the same bridge as the next negative $129 \times 179 \mathrm{~mm}$. Collodion transferred to waxed paper, indistinct inscription in blue pencil on verso (same as the above), 33 in red pencil. Coating present on the entire surface. Small areas of displaced/folded collodion. Edge of collodion stained purple mark top left corner, larger purple stain near top right hand corner.

Negative 31, View of a bridge, probably the same bridge as the previous negative, $124 \times 171 \mathrm{~mm}$. Collodion transferred to waxed paper. Inscribed 34 or 35 in red pencil on verso. Clear coating on the entire surface, even where the collodion is missing. Small area of displaced/folded collodion top right entire surface,

Negative 32, 'Voreppe', view looking along a dry river bed, also inscribed 21 in red in pencil and 61 in graphite. $131 \times 177 \mathrm{~mm}$. Purple colour by transmitted light, possibly intensified. Coating present on the surface. Watercolour on verso to create clouds when printing. Collodion transfer onto wax paper, small areas of collodion folded under in the lower left and right hand corners.

Negative 33, view along an avenue and watercourse towards a hill. 36 inscribed in red pencil on the verso. $127 \times 174 \mathrm{~mm}$. Moisture sensitive coating on the surface. Collodion transfer to waxed paper.

Negative 34, 'La Sône " (river) also inscribed 82 in iron gall ink on the verso. $130 \times 177 \mathrm{~mm}$. Moisture sensitive coating on the surface. Collodion transfer to waxed paper.

Negative 35 , view of buildings, tree and a cross, inscribed 51 or 15 in red pencil on the verso.
$126 \times 175 \mathrm{~mm}$. Coated with gelatine, the gelatine is separating in places and lost in others. Collodion in top left corner missing but gelatine covers part of the loss.
Negative 36, 'St Chef - Vignier La Tour du Poulet', also inscribed 375 and 142 in iron gall ink.
$126 \times 166 \mathrm{~mm}$. Collodion transferred to waxed paper. Varnish coating which spills round to the verso in places. Right hand edge of the collodion wrapped round to the verso of the paper.
Negative 37, 'La Sône Chateau' (West of Grenoble) also inscribed 77 in iron gall ink. $129 \times 175 \mathrm{~mm}$ Probable gelatine coating which traverses the gap in collodion in the bottom edge. Collodion transferred to waxed paper. Purple staining bottom right hand corner. A little folded collodion lower left corner.
Negative 38, 'Laya Batz', (view of a lake, buildings and rocky cliffs), also inscribed 60 in red pencil. $136 \times 183 \mathrm{~mm}$. Collodion transferred to waxed paper. Probable gelatine coating. Small fragment o displaced collodion caught under the lower left corner.

Negative 39, view of a chateau or large religious building, inscribed 32 in iron gall ink and 44 in graphite pencil on the verso. Watercolour applied to the verso to print brighten the sky in the positive prints and adjust the brightness of other areas. A little watercolour on the recto also. $172 \times 234 \mathrm{~mm}$. Large loss of lower right corner and long tears present.

Negative 40, view of Voiron (South East of Lyon) with the church of St Bruno near the centre.
$119 \times 169 \mathrm{~mm}$. It appears to be a developed out, gelatine emulsion on a cast gelatine film.

## Positives

Positive 1, 'Cascade De Mr Vincent', signed A Boz or Bon. Albumen print with a thin albumen layer and a dull surface printed from a wet collodion negative. $160 \times 121 \mathrm{~mm}$ (print), $244 \times 208 \frac{1}{2} \mathrm{~mm}$ (mount).

Positive 2 , statue of a child among rocks, thinly coated albumen (?) print, waxed. The right edge is not waxed. $173 \times 127 \mathrm{~mm}$. Printed from a paper negative. Probably 1850s.

Positive 3, 'Le Faton' (in Voiron S E of Lyon). Albumen print from a collodion on paper transfer. The op right hand corner of the collodion was folded over during the transfer and this shows on the print. $181 \times 246 \mathrm{~mm}$

Positive 4, St Bruno's church in Voiron. $215 \times 156 \mathrm{~mm}$. This appears to be a developed out albumen print on very thin paper. The paper has been waxed to improve transparency but the wax does not reach all the edges. Red watercolour on the verso to alter the printing properties. This is therefore not the final image. Coated with an organic coating which softens in alcohol (less so in water) but does not dissolve. The coating is now detaching. The coating has discoloured and gives a discoloured appearance to the highlights and a brown appearance to the shadow areas. Where the coating has flaked off the Dmax areas are more neutral in tone, indicating a developed out print. The binder layer does not dissolve in alcohol or swell in water.

Positive 5 , winding road beside a river which passes between cliffs. $183 \times 138 \mathrm{~mm}$. Collodion emulsion on a black varnish layer transferred onto paper. The shadow areas are black. Silvering out is present around the edges. The print has a surface coating of gelatine and responds to a breath test. Collapsed bubles ind bis coating are visible under magnifcation. The lower rght hand corner of the inage layer is folded and bunched from being transferred imperfectly. The photographic image ends on the left hand side inside the photograph area and a plain margin can be just about seen. Probably the other three sides have been trimmed and this side shows where the plate holder has covered the edge preventing it being exposed. Strangely, under magnification, paper fibres are visible through the highlight areas where one would expect to see the black varnish.

Positive 6, 'Usine des Gorges Voiron', cabinet card format albumen print, $109 \times 165 \mathrm{~mm} .1860 \mathrm{~s}$. The location looks to be similar to negatives 8, 8a, 21,22 and 23.
Positive 7, 'Cathedrale Voiron', $174 \times 249 \mathrm{~mm}$ Imperial cabinet card format. Collodion printing out paper Probably from the 1890s.



[^0]:    6. Negatives 10 and 11 appear to form a panorama
