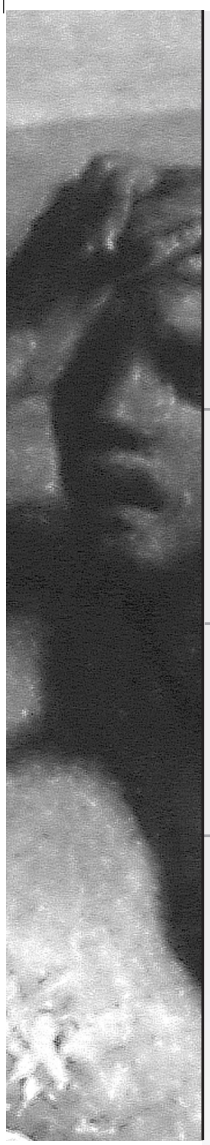

Reflections on J.-F. Millet's *Agar et Ismaël*

Technical analyses of an unfinished painting

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ARTMATTERS

1 Introduction

In 2002 a restoration project was undertaken on Jean-François Millet's painting *Agar et Ismaël* (1848-49), unsigned, oil on canvas, 146 x 236 cm, (fig. 1).[1] The surface of the painting (believed to have last had attention in 1960) was found to have thick, irregular and severely discoloured varnish layers. This dark yellow coating, covered with surface dirt, hindered any proper appreciation of Millet's colour scheme and textured paint surface and his intended illusion of atmosphere and space.[2]

In 1979 Bruce Laughton published his article on the remarkable history of *Agar et Ismaël*.[3] The historical evidence presented by Laughton showed that the painting had been commissioned by the French State in 1848, but that Millet never finished it. Instead, he was said to have covered it with a layer of paint and left it standing in a corner of his studio. In 1885, several years after the artist's death, one of his sons removed this paint layer. Millet's widow sold the painting in 1887, and in 1892 it entered the collection of H.W. Mesdag, where it remains. A Technical Appendix to the 1979 article presented the findings of a close study of the painting's surface.[4] This study aimed to find evidence of remains of the covering paint layer, to examine the composition of this layer, and to discover whether Millet had covered *Agar et Ismaël* entirely or partially.

Before the 2002 restoration the painting's condition was again assessed through observations with the naked eye and stereomicroscope in normal and ultraviolet light, infrared reflectography and x-radiography, as well as analyses of paint and varnish samples (information on the analytical techniques that were used and the results of the analyses are listed in tables 1–2). This technical examination helped to understand Millet's working methods and to identify any remains of the covering paint layer. To put these findings into context, further research included consultation of the files at the Musée d'Orsay Centre de Documentation, the collection of the Cabinet d'Arts Graphiques du Musée du Louvre and the scientific data kept at the Laboratoire de Recherche des Musées de France.[5] To learn more of Millet's use of a covering layer in general, our research included other paintings that he had reused from the late 1840s and early 1850s (see table 3).[6]

This article discusses our findings on the materials and techniques of *Agar et Ismaël*, evaluates the conclusions of the 1979 Technical Appendix, and presents the first results of our research on Millet's use of a paint layer to cover an earlier composition.

2 *Agar et Ismaël:* **The Story of a State Commission**

• *The commission*

The year Agar et Ismaël was conceived, 1848, symbolises national turmoil and political instability; for Millet it was a time of financial difficulty and important changes in his artistic career. Soon after the establishment of the Second Republic in early 1848, Philippe Jeanron, a friend who had become Directeur des Musées Nationaux, helped Millet obtain an official commission, for which the artist was allowed to choose the subject.[7] Millet chose the dramatic biblical story of Hagar and her son Ishmael in the desert, which he planned to paint on the largest canvas he had used so far. The choice of such a subject for a state commission was quite understandable: it was in line with academic tradition and with Millet's own training and ambition. Yet it was also unexpected since, despite the acknowledgement of Millet's talents, the response to his history paintings had not been generally favourable. An *Œdipe détaché de l'arbre* [8] shown at the Salon of 1847 (painted over a *Tentation de Saint Jérôme* which had been rejected for the Salon of 1846) seems to have disconcerted critics, mainly because of its vibrant, impastoed brushwork. Another ambitious painting, *La captivité des Juifs à Babylone* [9], painted in 1847 and shown at the Salon of the revolutionary year, was later over painted with brownish paint and a *Jeune bergère* begun in 1870; *La captivité* was not considered a success by academic standards. For all his efforts, Millet's meagre source of income during his stay in the capital had been the production of small size nudes and pastoral scenes.

The arrival of the new administration at the 1848 revolution and the state commission to the artist promised to change all this. The first payment to Millet according to the contract was made in the summer of that year after he had submitted a small oil sketch. In spring 1849 the artist, still working on *Agar et Ismaël*, asked for and was paid the remaining sum of the contract. But in June, when cholera struck Paris and other parts of France, Millet and his family left the city, accompanied by the painter Charles Jacque, to settle in Barbizon. In a letter to Alfred Sensier from 28 June, Millet wrote that Jacque and he had decided to stay there '*pour quelque temps*' [for some time], but it proved to be for the rest of his life.[10] The artist, who had taken the still unfinished *Agar et Ismaël* with him, is said to have continued to work on it, but he never finished it. So the painting was not submitted to the Salon as planned; instead, to fulfil the commission he had been paid for, Millet sent two smaller and less ambitious paintings of rural scenes to the Salon of 1849, *Le repos des faneurs* [11] and a *Bergère assise*.[12]

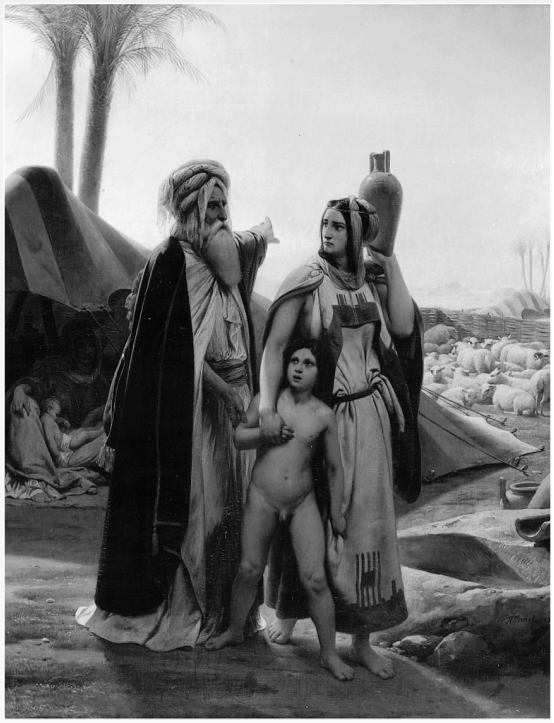
• *The theme*

The story of Hagar and Ishmael, recounted in Genesis 21: 13–21 [13], is of crucial importance to the history of religions; Ishmael, saved from death by an angel, is destined to become the founding father of the Muslim religion, while his half-brother Isaac is considered the founding father of the Jewish religion. The Bible describes Hagar's

fig.1 J.-F. Millet, *Agar et Ismaël*, Museum Mesdag, The Hague (after recent restoration).

ordeal in the desert, into which she was sent with her son Ishmael, carrying nothing but a jar of water. Why Millet chose this subject is unknown; but in 1848 a religious subject was still considered suitable for an ambitious artist attempting to make his way in the Salon. It should be noted, for example, that at around the time Millet proposed to paint *Agar et Ismaël*, the Ministry of the Interior approved Daumier's choice for a commission: a *Madeleine dans le Désert*, then a popular subject.[14] However, neither artist delivered. It seems that, despite all their efforts, these biblical subjects failed to inspire, and that both men knew that their talents lay elsewhere.

A number of Millet's small paintings from the late 1840s show that he had become interested in painting melancholy or distressed women, and mothers with children, in an unidentifiable landscape. No specific source or biblical reference appears to exist for these works, and in the course of time most received different titles that no longer suggest such a reference. For example, a small painting now called *Les errants* has been known in the past under the title of *Agar et Ismaël*.[15] This canvas differs considerably from the large painting of 1848–49: it is a simple composition in which a seated pensive woman embraces her child; the tranquil mood is closer to that of the small-size pastoral scenes the artist painted



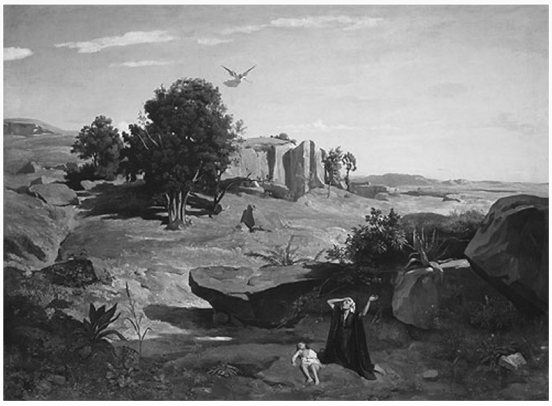


fig. 2 H. Vernet, *Agar chassée par Abraham*, Musée des Beaux Arts, Nantes.
fig. 3 C. Corot, *Agar et Ismaël dans le désert*, Metropolitan Museum, New York.

around the mid-1840s. Powerful emotions are not suggested by these figures, nor does the scene in any way relate to a story of desperation and death, as the state commission painting does.[16]

In his version of the biblical story, Millet aimed to focus on the personal tragedy of the abandoned mother and dying child. His version may be compared to those painted by two of his contemporaries, Horace Vernet (1838) and Camille Corot (1835). Vernet used a smaller canvas for the subject than Corot and Millet. But unlike the latter, Vernet and Corot chose to illustrate the story less dramatically, using elaborate landscape settings with details intended to make the scene easily recognisable.

Vernet's painting (fig. 2) shows the moment when Abraham chases Hagar and Ishmael into the desert. The three figures occupy a central place in the painting, and they are rendered in a stiff manner. The background is implicitly oriental. At the left of Abraham, a woman, probably Sarah, is holding her newborn baby, thus underlining Hagar's loss of status. Corot on the other hand, chose to depict the happy outcome of Hagar's story, showing an angel flying above the mother and child to announce their salvation (fig. 3). Here Hagar and Ishmael appear surprisingly small within an elaborate 'Corot' landscape. They are not shown in the shade of a tree, as described in Genesis, though the area around them is shadowed while the rest of the landscape is bathed in sunlight. Thus, the division of light and shade suggests the relief of their distress by a coolness announcing their salvation.

The painting of Vernet is a monumental academic work illustrating a biblical story. Corot seems to have used his subject as a pretext for a large landscape. Vernet and Corot remained quite faithful to the Genesis text; Millet, however, strikingly moved away from it when he painted his version of the Hagar and Ishmael story. Clear visual references were omitted. To underline the dramatic content of the story, Millet painted Hagar larger than life size, stretched out along the entire length of the canvas with her little son isolated behind her in a contorted pose. The incorrect anatomy of her body (the too long left arm and the peculiar relation between torso and legs) must have been a deliberate approach, as it is reminiscent of well-known examples such as David's *La mort de Barra*, Gros' dying soldiers in *Les pestiferés de Jaffa*, as well as the singularly muscular female figures by Michelangelo. Vivid brushstrokes in the foreground seem to underline the mother's distress, while softer contours and blended colours were used in the background to illustrate the arid and empty character of the deserted landscape. The artist gave a prominent place to both figures, lying in agonised poses. Hagar no longer embraces her child as a sign of maternal protection, but lifts her head in a desperate plea for deliverance from a hopeless situation.

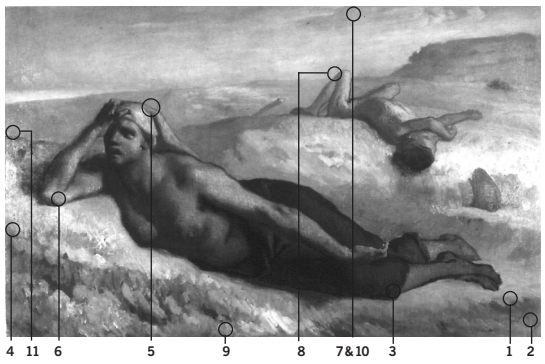


fig.4 Location of samples taken for analysis

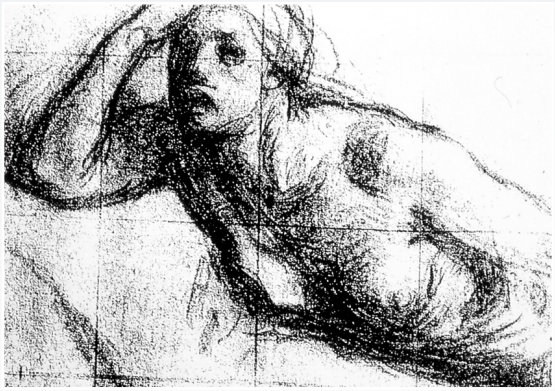


fig.8 Sketch of Hagar, private collection, Paris.

3 Materials and Techniques of *Agar et Ismaël*

• *Support and preparatory layers*

The support of the painting is a middleweight plain-weave (probably linen) canvas of one piece.[17] It is fairly tightly woven (thread count: average of 13 threads in vertical direction and 21 threads in horizontal direction per square centimetre) but is hardly a superior-quality support, as the x-radiograph shows numerous irregularities or weaving errors (thicker threads and runs in the warp and double threads in the weft).[18]

The canvas has been prepared with an even, creamy-white ground, which remains visible only on the tacking margins (for the results of examination of some selected paint and varnish samples see tables 1–2; sample locations are given in fig. 4). It is not possible to say how the ground was applied, nor can it be definitely established whether it was applied commercially or by the artist. Analyses of paint samples showed that the ground consists of one layer, containing lead white and china clay, with linseed oil as the vehicle.

The two cross-sections of the ground taken from the sky area near the top edge of the painting also show oval-shaped transparent inclusions of different sizes, found to be grains of starch (figs. 5–6). No such grains have been found in other cross sections. The surface of the ground in these cross-sections was noticeably deformed into a wave-like pattern, with most of the starch grains located in the flare-up of the layer. It seems that the clear presence of starch grains in the two samples is related to this abnormal wave-like pattern of the ground. But the fact that this material has only been found in this particular area remains puzzling. Although no examples of this type of ground on paintings contemporary to *Agar et Ismaël* have yet been found, the presence of starch in the ground may not have been uncommon in the nineteenth century.[19] The local presence of the starch might be explained by its use and subsequent introduction during some restoration treatment. However, this explanation is equally unsatisfactory and requires further research.

• *Painting technique*

Over the entire surface of the ground — including the sky area — a transparent brown mixture was applied, mainly composed of red and yellow ochre. This even under-layer appears to have functioned as a middle tone at the first stage of painting, although much of it was later to be covered by opaque, lighter colours (see fig.7).[20] It remains visible in the unfinished parts and the shadow areas of Hagar's body.

Millet appears to have considered the figure of Hagar carefully. A drawing (fig.8) shows the upper part of the woman's body in an identical pose.[21] A feature of Millet's drawing technique, seen here, is his preoccupation with contours, which he tends to retrace a number of times, creating a livelier sense of volume. This concern reappears in the painted figure of Hagar, especially her right arm and breast, where Millet changed the contours, alternately approaching them with flesh colours or with sand colours from the landscape, before strengthening them with dark brown or transparent red lines. Although no squares or any underdrawing were found on the painting during its examination, faint squares on the drawing, drawn with a ruler, suggest that the composition was to be transferred to the canvas.[22]

Apart from shifting the right arm slightly to the right (darker lines next to the fore-arm still show its former

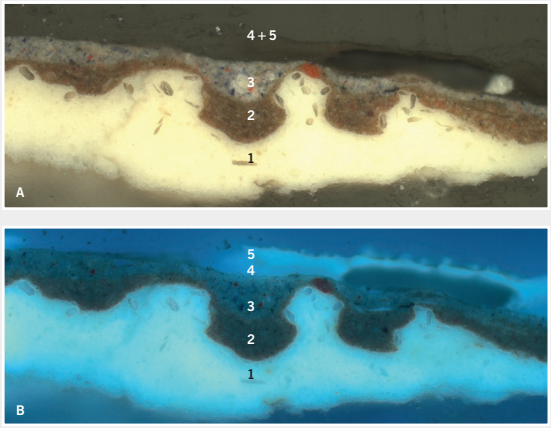


fig.5 Cross section (sample 7) taken from sky, in
a) bright field and b) UV.
1. Ground with starch particles.
2. Brown underlayer.
3. Blue layer.
4. and 5. Varnish layers.

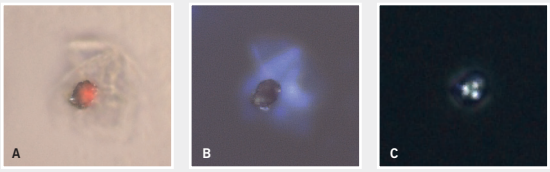


fig.6 Investigation of one of the transparent particles in layer 1, Fig.12.
a) after staining with TTC (See Table 1) bright field
b) idem, in UV
c) polarised light microscopy, showing a characteristic cross-shaped pattern.

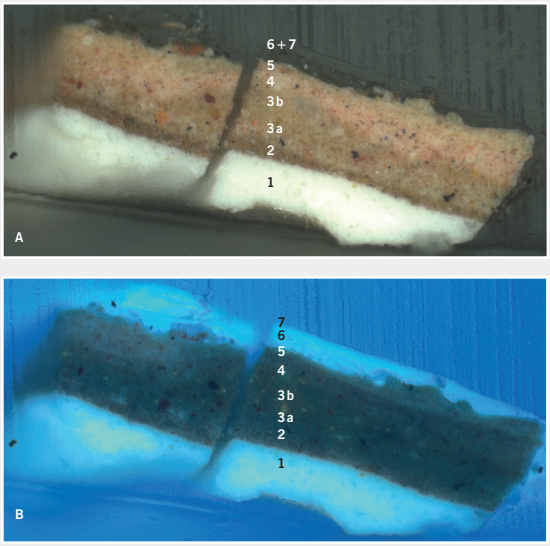


fig.7 Cross section (sample 8) from Ishmael's leg, in
a) bright field and b) UV.
1. Ground.
2. Brown underlayer.
3.–5. several paint layers, applied wet-in-wet.
6. and 7. Varnish layers.

fig. 9 Right arm of Hagar, showing the ochre mixtures used for the incarnate areas and the retracing of contours (detail).

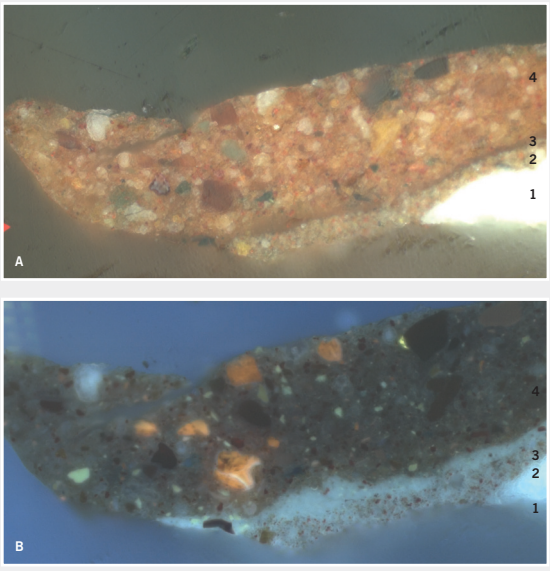


fig.10 Cross section (sample 6) from Hagar's right arm.
a) bright field and b) UV.
1. Ground.
2. Brown underlayer.
3. transparent, medium rich layer.
4. Reddish ochre layer. Varnish layers not present as they have flaked off during sample taking.

position), Millet did not change the figure of Hagar, or her position in the landscape, during painting. This is confirmed on the x-radiograph.

The flesh tones of Hagar are the most elaborate parts of the painting — except for her right foot, which remained unfinished. It shows a thick dark brown contour applied on top of a lighter brown, almost even flesh tone.[23] The rest of Hagar's body was painted with a succession of similar mixtures of colours, with darker pigments for the underlying layers and lighter paints containing more lead white for the finishing layers (fig. 9). Although the first flesh tone layers were applied wet-in-wet, the surface of the lightest parts of Hagar's body is characterised by the 'open', scumble-like brush strokes that leave the underlying paint layers partially visible. Hagar's flesh tones not only include ochres, ivory black and lead white, but also bright green, transparent red lake and transparent colourless particles (fig. 10). Similar mixtures for flesh tones may also be observed in his paintings from the late 1840s and early 1850s.[24]

Hagar's blue dress was painted in a simple and effective manner. A dark brown, fairly even underlayer remains visible in the shadow areas, and three different shades of blue-green (ultramarine, presumably Schweinfurt green, carbon black and Naples yellow) were applied for the lighter parts and folds of the cloth.

The smaller figure of Ishmael was originally painted some ten centimetres lower than its present position. Probably Millet considered this lower position too close to the figure of Hagar, and decided to move the entire figure upwards, improving the relationship between the two figures and their barren surroundings. The original figure of the boy was then covered with yellowish and beige opaque colours, however, he remains partially visible even with the naked eye. It appears that Millet managed to reproduce the contorted figure without hesitation or alteration. A small preparatory drawing (fig. 11) shows the difficult pose of Ishmael sketched effortlessly. In the painting itself, part of the first boy's left shinbone can still be seen below the calf of the present boy's left leg. Its contours are followed by those of the later figure, and the distance between the first and the present sheen matches the original lower position of the rest of Ishmael's body, showing that the disposition of the figure itself was not changed by the artist but only moved upwards to its present position (fig 12). The x-radiograph shows no *pentimenti* or signs of afterthought.

The boy was painted in quite a different manner to Hagar, with some thin but opaque beige and warm grey colours. No complex succession of colours was used to

fig.11 Sketch of Ishmael, Kunsthalle, Bremen.

finish Ishmael; instead, a rather coarse distribution of light and shadows sufficed. The face was set up efficiently in perspective with a minimum of detail. Brownish lines along the contours of legs and arms were added to define form and increase the contrast with the surrounding landscape.

The wooden stick to Ishmael's left, sticking out from the mound of sand on which the boy lies, is a useful device to suggest space beyond the mound — a device Millet used to great effect in later works.[25] An empty jar lying in front of Ishmael, the traditional prop for the abandoned pair, clearly remains unfinished. Its dark red brushstrokes left visible the yellow colours of the foreground over which it was painted; little attention had yet been paid to its shadows and highlights.

In the foreground along the bottom of the painting, darker yellowish and warm earth colours have been thickly applied wet-in-wet, with diagonal broad brush strokes, showing a variety of marbling effects. In some of these brush strokes, streaks of bright green and transparent red pigments can be seen that have been smeared in with the other colours. Clearly, these vibrant colours were applied very quickly and purposely left intact (fig. 13).[26] Their medium-rich smooth quality is apparent in drips that formed after application. The lighter areas of the foreground, close to the reclining figure of Hagar, were painted with smaller brushes. Here, the brush strokes with different shades of dark cream and yellow are far more blended than the colours at the bottom of the painting. The upper, hatched brush strokes that form the highlights next to Hagar's breast and right arm are much more 'open', and they appear to have a drier, coarser quality, similar to the surfaces in the lighter flesh tones and headdress of Hagar (fig. 14).

The combination of colours and variation of brush-strokes used in the landscape, ranging from broad, energetic dabs of paint with strong colours in the foreground to smaller hatchings and carefully blended brush strokes with softer colours in the middle and background, successfully give the illusion of space. The sky area, where horizontal brush strokes dominate, shows a gradual range from pinkish white at the left side of the horizon to pinks and mellow orange tones above that, with a greyish pale blue at the top of the painting. Paint cross-sections from this area show that an opaque greyish pale blue, consisting of cobalt blue and ultramarine blue, lead white and red iron oxide, cover the thin brown under-layer completely.

• *Pigments, binding media and varnish*

The rather limited range of pigments found in paint samples taken from *Agar et Ismaël* matches closely the series of pigments that Millet is known to have used in the year after he settled in Barbizon. In a letter almost certainly written early in 1850, Millet asked Alfred Sensier to send him 3 *terre de Sienne brûlée*, 2 *idem naturelle*, 3 *jaune Naples*, 1 *Italie brûlée*, 2 *ocre jaune*, 2 *terre d'ombre brûlée*.[27] At the end of October 1850 the artist received a set of pigments that had been purchased for him at the shop of the Parisian supplier Vallé: 4 tubes *blanc de plomb*, 4 tubes *jaune de Naples*, 4 tubes *cobalt*, 4 tubes *ocre de ru*, 3 tubes *momie*, 4 tubes *massicot clair*, 2 tubes *noir d'ivoire*, 4 tubes *terre d'ombre brûlée*, 1 tube *laque fine*, 1 tube *terre d'Italie brûlée*.[28] These were all traditional readily-available pigments. Even Schweinfurt green (emerald green), the most modern pigment that has been identified in Millet's painting, had been on the market since the early 1820s.[29]

Apart from the colours in tubes, the artist also asked for 1 *flacon d'huile grasse*, which is a heat-bodied oil.[30] The main characteristic of this type of medium is its short drying time, which can be valuable when mixed with slow-drying pigments such as earth colours, and for diluting paint used for under-painting.[31] Analysis of the binding medium of two paint samples from *Agar et Ismaël*, (Table 2, nos. 2, 6) indicated the presence of linseed oil.

Before its recent restoration, the painting was covered with two varnish layers of uneven thickness. The older layer — which in some areas had become so brittle it had broken up — showed a whitish, milky fluorescence in ultraviolet light. In some samples, surface dirt was found between this varnish layer and the more recent upper layer, which consisted of dammar, probably related to the 1960 restoration. The older varnish was an oleo-resinous type, perhaps containing amber (see fig. 15).[32]

4 The reuse of canvases and the paint layer of 'some neutral colour'

Some time after the artist abandoned *Agar et Ismaël*, he covered it with a thick paint layer of 'some neutral colour'[33], leaving it standing in a corner of his studio until the end of his life (1875). Ten years later, Charles Millet, one of his sons, decided to remove this paint layer, revealing the abandoned scene and changing its destiny. In 1887 Millet's widow sold it. In 1892 the Dutch painter Hendrik W. Mesdag, a great admirer of the Barbizon School, with a taste for unusual and unfinished works, acquired the painting and gave it a place of honour in his collection.

According to Charles Millet's brother François, who told the story about the covering layer of 'some neutral colour' much later to the American painter W.H.Low, the abandoned canvas was placed against one of the walls of the studio. It is of course quite usual for the walls of an artist's studio to be stacked with canvases put aside for various lengths of time. The description of Millet's studio in Barbizon by E.Wheelwright, who met the artist frequently during his stay in the village in 1855–56, describes just this: 'Upon shelves about the room or standing upon the floor with their faces turned to the wall were piles of canvases, new and old, of all sizes: many of them, as I afterward [sic] discovered, pictures in various stages of progress, some of which had not been touched for years.'[34] It is tempting to believe that when Wheelwright saw Millet's studio, the discarded Hagar and Ishmael canvas was one of those facing the wall.

Research on other paintings by Millet has shown that on several occasions he reused works he no longer considered worth keeping or finishing, with or without the use of a covering paint layer (for examples of repeated use of canvases by Millet mentioned here, see table 3). Some of these reused works kept their original measurements when Millet painted a new composition on them; others were first cut to smaller formats and re-stretched. The time that elapsed between putting a painting aside and its new use varied considerably. While some paintings were reused within two years, others were left for much longer. During the 1840s in particular the artist reused early works, usually without applying a covering paint layer.[35]

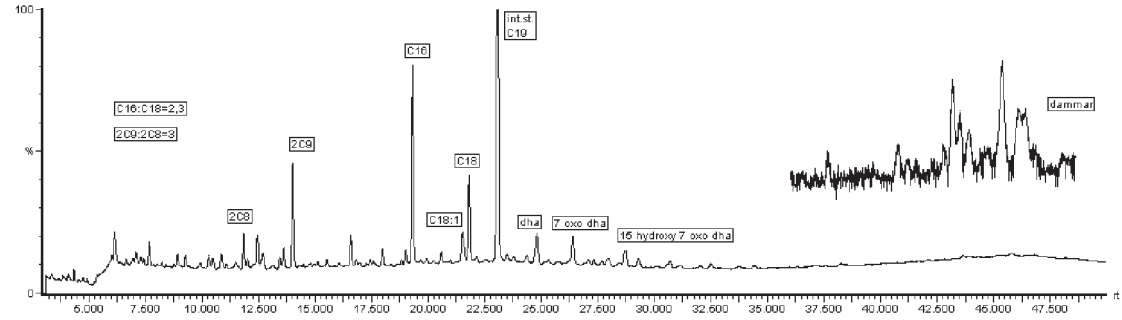


fig.15 Py-TMAH-GCMS analysis of the varnish layers (sample 4). Spectrum shows strongly pre-heated drying oil components from the older varnish, and some triterpenoid resin components from a relatively recent dammar varnish layer, most probably from the 1960 treatment. The diterpenoid components (dha, 7-oxo dha and 15 hydroxy dha) and the succinic acid may indicate the presence of an amber varnish. See also Table 2.

The reasons for and circumstances under which Millet reused abandoned paintings vary. Some of the examples identified failed to gain the official recognition that the artist had sought. For example, *La tentation de Saint Jerôme* was overpainted with the *Œdipe* a year after the Salon of 1846 had rejected it. The allegorical representation of *La République*, painted for a competition sponsored by the revolutionary government in 1848, had not been accepted; it was taken to Barbizon when the artist left Paris in 1849 and overpainted with *Les scieurs* in 1850.[36]

He also reused portraits or pastoral scenes, for reasons that remain obscure. One such subject was found under *Femme de pecheur*, dated around 1848. The female nude beneath was painted on a commercial standard size no.8 *portrait* canvas; its original size unchanged, it appears to have been overpainted without scraping down or roughening. Comparison with other pastoral scenes painted on canvases of the same size, such as *Le chuchotement* (at present called The Whisper),[37] now suggests that the painting of the nude dates from around 1846. Two other paintings, the so-called *Two Reclining Figures*[38] and *Le vanneur*[39], contemporary with the *Femme de pecheur*, were also painted over earlier compositions with unidentified subjects.

In considering *Agar et Ismael*, we may note two other works known to have been painted on an opaque brown paint layer, applied by Millet to cover earlier discarded compositions. The older of these, *Gruchy vu du côté de la mer* (probably painted in 1854, while visiting his native region) was painted over a much earlier *Nu écorché*.[40] A brown intermediate paint layer concealing the image of the flayed man was kept visible as a middle tone in the shadow areas of the landscape.

A second example, *Jeune bergère*, which Millet probably began in 1870, was painted on top of *La captivité des juifs à Babylone*, a painting that the artist had shown at the Salon of 1848. Although this work received some praise, it did not meet with the success Millet had hoped for. It has been suggested that the painting was then stored out of sight. Millet reused it much later, after he had fled to Normandy during the Franco-Prussian war when painting materials were hard to find.[41] It could not be determined whether the Babylon scene was scraped down or roughened before an opaque dark brown paint was applied with a broad brush. The texture of this roughly applied paint layer is still visible beneath the later painting. It appears that this paint layer, applied to cover *La captivité* and as a preparatory layer for the *Jeune bergère*, covered only part of the composition and did not reach the edges. This observation is confirmed by the paint samples, where a thick opaque layer (containing reds, orange-reds, blacks and quartz particles) was found in only two of them; in these samples, the opaque covering layer was found on top of a varnish layer; other samples did not reveal a varnish layer between the two paintings.[42]

As Charles Millet removed the paint layer that his father had applied over *Agar et Ismaël*, it is not possible to be certain of its composition, nor how much of the abandoned composition had been covered by it. An investigation into the nature of the covering paint layer, based on what was presumed to be its remains, was carried out in 1976 and published in 1979. Research carried out during the recent restoration project included close study of the entire paint surface (see figs. 16a and 16b), stereo microscopy, and SEM-EDX analysis of one of the paint

fig.12 Figure of Ishmael, showing its present and former position in normal light (detail).

fig.13 Foreground bottom left, marbling effect as a result of wet-in-wet painting (detail).

fig.14 Foreground close to breast of Hagar, showing hatching-like top brush strokes with an open, relatively dry, coarse quality (detail).

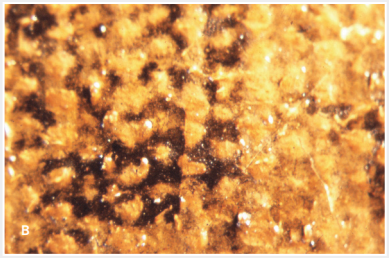
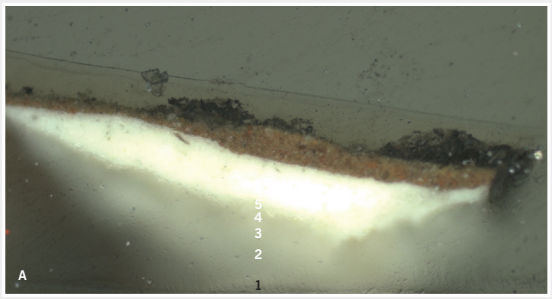
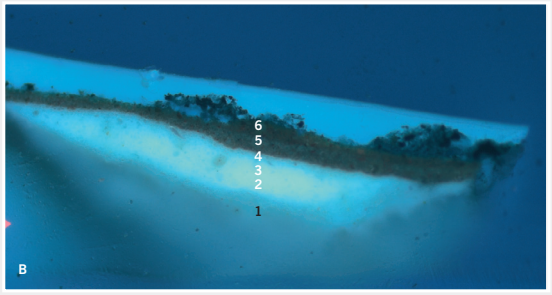


fig.16a +b Remains of the layer of 'some neutral colour', foreground bottom right (detail and macro detail).





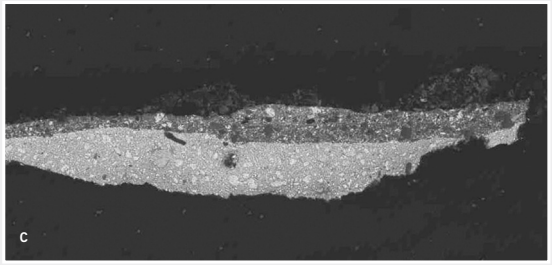


fig.17
Cross section (sample 9) from foreground, in area containing remains of brown-black overpaint. a) bright field, b) UV and c) SEM; backscattered electron image.
1. Ground.
2. Brown underlayer.
3. Yellow ochre layer.
4. Black layer.
5 and 6. Varnish layers.

cross-sections taken from the bottom right corner of the painting (see fig. 17). The dark remains of the covering layer have now been identified; they proved to contain carbon black impregnated with a resinous material, which fluoresces in UV light. Organic chemical analysis of the brown-black paint, mechanically separated from other layers with a scalpel, showed the same components as the varnish. Inorganic analysis (SEM-EDX) showed no elements that could indicate other pigments. All paint layers found in other cross-sections show mixtures of different pigments, but in contrast to the open character of the carbon black layer, these layers are well bonded and consistent. As Charles Millet had evidently been almost completely successful in removing the covering paint layer, it could not be ascertained whether it had consisted of more than the one layer, whether the black pigment was the only one, or how thick the covering layer had been.[43]

5 Conclusion

When he chose to paint *Agar et Ismaël* for his state commission, Millet sought to measure himself against his renowned contemporaries, creating a new and very personal interpretation of the biblical story. No written evidence has been found to explain why he abandoned a painting that was so far advanced, a project to which he had been so committed.

Other sources tell us little more. The only known comment by the artist himself is that recorded by Will Low long after the artist's death.[44] In his biography of Millet (1881), Alfred Sensier remarked that the artist considered the painting a 'dark thought.'[45] What this means is unclear, but in the past it has tempted writers to suggest that his dramatic rendering of the biblical story reflected the artist's personal mood and circumstances, as well as the difficult times the French population experienced during the revolutionary year of 1848.[46]

In terms of size, the project does not seem to have been an over-ambitious undertaking, since the artist had already used a large size canvas for *La captivité des Juifs à Babylone*, which he had painted shortly before *Agar et Ismaël*. Perhaps Millet tried to show that his talents were equal to those of the great masters whose paintings graced the walls of the Louvre, only to come to the conclusion that he had failed. Perhaps he realized that his *Agar et Ismaël* would not meet with approval at the Salon. As was pointed out earlier[47] the painting is an innovative one: Millet clearly (and in our eyes successfully) exposes his feelings about human suffering; his figures take their place in an almost abstract landscape. The human figure remained Millet's principal subject for the rest of his career, as can be seen in the famous *Le semeur* (1850) and *Les glaneuses* (1857). Maybe, after the move to Barbizon, he left *Agar et Ismaël* unfinished because he found another source of inspiration more personal to him — the rural life of his own time.

Millet was a skilled draughtsman, who clearly knew how to proceed in setting up an ambitious painting such as *Agar et Ismaël*, using a limited range of traditional pigments in an effective way. Over a brown underlayer, the artist applied only a few paint layers; no sign of extensive changes in either composition or colour scheme have been found. Close examination of *Agar et Ismaël* has shown that the painting process ended only during the final phases of elaboration. Whereas various art historical publications devoted to Millet's work proposed different artistic or psychological reasons why the artist may have decided to abandon the painting at such a late stage, the present authors would like to underline that no technical problems have been identified that can be linked to its unfinished state.

The remains of the paint layer which Millet had applied after he had abandoned the painting, which was taken off again by Charles Millet, have been shown to contain carbon black. Considering that the covering paint layer had been applied to a paint surface that was still relatively young, and must have stayed on that surface for a number of years before it was removed, the paint layers of *Agar et Ismaël* were found remarkably intact. No serious damage attributable to the removal of the paint layer of 'neutral colour' by Charles Millet has been identified; the abrasion observed on some parts of the painting may be related to previous varnish removal methods.

Comparison between the history of this painting and others that were reworked by Millet has not shown any consistency in the application of an intermediate paint layer, intended both to cover an earlier composition and to function as a ground or middle tone for a new one. We do not know why the artist applied such a layer on some of the canvases he wanted to rework but not on all. It seems that Millet might have decided to overpaint several of his works because of pragmatic and economic reasons as well as feelings of rejection or failure. Further technical research into this subject may broaden our understanding of Millet's treatment of compositions he no longer considered worth keeping; to what extent and with what materials the discarded compositions were covered; and how their colour and texture contributed to new compositions.

Table 1: RESULTS CROSS SECTION AND PIGMENT ANALYSIS

Sample no [1]			Light microscopy [2]	SEM-EDX
			Sample number / Layer number / thickness (mm) / composition also based on EDX	
2.	5	75	Varnish layer with a slight fluorescence, it also contains dark particles, presumably carbon black and other ones	Al, Si, C, (P), (Ca)
	4	12	Thin varnish layer with a milky fluorescence	
	3	30	Ochre-coloured layer containing ochre, lead white, China clay, red and yellow ochre. Barium sulphate (probably filler) and quartz or chalcedony are also present.	Particles: Ba, S; Pb, Al, Si, Fe, Si and C, Si, Al, (Fe), (K), (Ca)
	2	85	Ground layer: lead white and clay	Pb, Al, Si, C
	1	25	Ochre-coloured layer containing lead white, China clay, red and yellow ochre.	Pb, Al, Si, Fe, (K)
3.	4	6-40	Two varnish layers on the left end of the sample: lower layer has a milky fluorescence; top layer has a slight fluorescence.	
	3	10-28	Blue layer: lead white, ultramarine, iron oxide red	matrix: Pb, Al, Si, (Fe), (Ca), (K), (Na). blue particle:Al, Si, Fe, Na, (Ca), (K). blue particle:Al, Si, K, Na
	2	14	Brown layer: Carbon black in a non-fluorescing medium	C
	1	24-92	Ochre-coloured layer of the leg: matrix: containing lead white, clay, red and yellow ochre	matrix: Al, Si, Fe, Pb. red particle: Al, Si, Fe, (Ca), (Mg)
5.	3	10	Varnish layer	
	2	50	Varnish layer: particles of dirt between the two layers	
	1b	55-100	Blue layer: The coloration of this layer is due-the presence of ultramarine, presumably Schweinfurt green, carbon black and few particles of Naples Yellow. In addition, the layer contains lead white and clay. *Note:* the lead white and clay in similar ratio as in ground	Matrix:: Pb, Al, Si, (Fe), (Mg) yellow particle: Pb, Sb, Si, Al. black particle: C. blue particle: Pb, Al, Si, K. blue particle: As, Cu Pb, Al, Si, K. blue particle:As, Cu
	1a	10-55	Red layer: matrix: of lead white with clay, red ochre and presumably an organic red[3] based on alumina.	red particle: Pb, Al, S, Al, K
6.	4	60-100	Reddish ochre-coloured layer: matrix: containing lead white, carbon black, red and yellow ochre, chrome green[4], presumably Schweinfurt green, organic red particles on Al and presumably organic yellow pigment	red particle: Al. green particle: As, Cu. green particle: Cr, Fe, (Al), (Si), Cu. green particle: Cr, Fe, (Al), (Si), (Mg). red particle: Fe. black particle: C. black particle: As, Fe, Si, C
	3	3	Dark layer containing carbon black in a fluorescing medium	Black conglomerates: C
	2	30	Ochre-coloured layer: matrix: containing lead white, red and yellow iron oxide	matrix: Al, Si, Fe, Pb, C, (K)
	1	15-100	Ground: lead white	Pb
7.	5	5	Varnish layer with a slight fluorescence. This varnish covers a thin layer of dust.	
	4	16	Varnish layer with a milky fluorescence	K,Cl,C,(Na),(Al),(Si)
	3	4-50	Blue layer containing lead white, cobalt blue, ultramarine and iron red oxide	blue particle: Al, Si, Co. blue particle: Si, Al, Na, K, Pb. red particle: Si, Al, Fe
	2	4-50	Ochre-coloured layer: lead white, china clay and iron oxide ochre	particle invisible in bright field: Si, Al, Fe, Pb, K
	1	70-150	Ground: lead white and China clay with particles of starch	matrix: Pb, Al, Si, C, (Ca), (Fe)
8.	7	12	varnish layer with a slight fluorescence	
	6	14	varnish layer with an milky fluorescence, it covers a thin layer of dust	
	5	12	Light ochre-coloured layer containing lead white, red and yellow ochre, quartz, few particles of ultramarine	Matrix: Pb, Fe, Al, Na. particle: Si
	4	20	Light pink layer: lead white, red ochre and many ultramarine particles	matrix: Pb, Fe. red particle: Si, Al, Na, (K), (Ca)
	3	70	Light ochre-coloured layer: matrix: containing lead white, clay, red and yellow ochre, carbon black, organic yellow particles.	particle invisible in bright field: Al, Si. yellow particle: Ca, Mg. red particle: Fe, Ca. red particle: Si, Al, K, Fe
	2	30	Dark ochre-coloured matrix containing lead white, clay, red and yellow ochre, carbon black	matrix: Pb, Al, Si, Fe, (K), (Ca)
	1	44-100	Ground: lead white	Pb
9.	6	10	Thin varnish layer with a slightly fluorescence	
	5	10-50	Thick varnish layer with a milky fluorescence	
	4	25-50	Inhomogeneous layer containing carbon black, and other particles	C, Si, Al, Ca, Pb
	3	16	Thin densely yellow ochre-coloured layer	red particle: Pb, Al, Si,
	2	25	Thin light yellow ochre-coloured layer containing lead white, clay, red and yellow ochre, quartz and an organic red particle	matrix: Si, Al, K, Fe transparent particle: Si
	1	50	Ground: lead white with clay in it.	Pb, Al, Si
10.	5	5	Varnish layer with a slight fluorescence. This varnish is covers a thin layer of dust.	
	4	16	Varnish layer with a milky fluorescence	
	3	25-50	Blue layer containing lead white, cobalt blue, ultramarine and iron red oxide	
	2	10-25	Ochre-coloured layer: lead white, clay and iron oxide/ochre	
	1	25-90	Ground containing starch	
12.	6	20	Varnish layer with an opaque fluorescence, covered with dust.	
	5	20	Dark ochre-coloured layer	
	4	2	Thin brown layer; bluish fluorescence	
	3	20	Light ochre-coloured layer containing red, black, ochre and colourless transparent particles	
	2	4	Brownish (under) paint	
	1	15-36	Ground layer presumably containing lead white and China clay (similar to other cross sections)	

1 See Figure 4 for sample locations.

2 Light microscopy on paint cross-sections gives information of the layer buildup, as well as limited information on the pigments and binding media. Samples were embedded in polyester resin and after grinding with SiC-paper examined under a Zeiss Axioplan 2 microscope. Incident normal and UV-light (Xenon lamp and high-pressure mercury vapour lamp, respectively). Filter set 'UV H365': excitation BP 365/12, beam splitter FT 395, emission LP 397. Separate pigment particles were studied with Polarised Light Microscopy (PLM). Particles were mounted in Permount histological medium (n = 1.539) and examined in polarised light. *SEM-EDX:* Elemental composition of pigments in paint cross-sections was studied using a JEOL JSM 5910 LV Scanning Electron Microscope and a Noran Vantage Energy-Dispersive X-ray spectroscopy system with a Pioneer Norvar detector. Electron beam 20 kV.

3 XRD analysis showed the presence of lead white 80% and lead carbonate 20%; no lead oxide was present.

4 Common name for a green pigment made of Prussian blue mixed with lead chromate. "In the 'wet' method of preparation, a slurry of Prussian blue is added to a pulp of barytes, China clay and chrome yellow, [...]" Cf. R. J. Gettens and G. L. Stout, *Painting Materials. A Short Encyclopedia*, (New York, *1966*), 105.

5 These particles may be related to an organic pigment such as bitumen, Van Dyke brown, or the elusive 'mummy', but it was not possible to elucidate their structure.

Table 2: RESULTS ORGANIC ANALYSIS

Sample no [1]	GCMS [2]	FTIR [3]	**Discussion / conclusions**
1. Varnish, very brittle	Mostly dammar and perhaps mastic, some linseed oil components (strongly heat-bodied, C8/C9 diacid ratio is 2.2; P/S ratio is 1.6), some pine resin components	Natural resin, oil and lead white.	Predominantly a dammar (and perhaps mastix) varnish; pine components possibly derive from an oil of turpentine.
2. Brown paint layer(s)	Low response. Linseed oil + ?; P/S ratio is 2.1.		(Mostly) linseed oil.
4. Varnish	Strongly heat-bodied linseed oil, C8/C9 diacid ratio is 3.0. Diterpenoid pine resin components; also succinic acid present. Very small amounts of a triterpenoid resin (presumably dammar).	Natural resin	Small amounts of dammar, high proportion of strongly heatbodied oil, abietic acids and succinic acid indicate the presence of an amber varnish.
6. Brown paint layer(s)	Low response. Linseed oil + ?; P/S ratio is 2.0.		(Mostly) linseed oil.
10. Ground layer		Lead white, a lead carboxylate, oil.	No starch found in this sample (compare with Table 1).
14. lining adhesive, taken from the reverse of the painting.	Beeswax and pine resin		Traditional wax/resin lining material, currently used in the Netherlands at the time of lining (1960).

1 See Figure 4 for sample locations.

2 Fourier Transform infrared (FT-IR) analyses were performed on varnish and paint samples with a Perkin Elmer Spectrum 1000 FTIR spectrometer combined with a Perkin Elmer AutoImage System FTIR Microscope, employing a miniature Diamond Anvil Cell with type IIa diamonds was used.

3 Pyrolysis Gas Chomatography-Mass Spectrometry (with Tetramethyl Ammonium Hydroxide; PY-TMAH-GCMS) was performed for organic analysis of varnish and paint samples.

Table 3: EXAMPLES OF REPEATED USE OF CANVASES BY J.-F. MILLET

Title, owner	Date	Size	Intermediate layer	Underlying composition	Date	Size
Œdipe National Gallery, Ottawa	1847	133.5 x 77.5	–	La Tentation de Saint Jerôme	1846	c. 150 x 160
Femme de pêcheur Museum Mesdag, The Hague	c. 1848	46.9 x 39	–	Bathing woman	c. 1846	46.9 x 39
Two Reclining Figures Museum of Fine Arts, Boston	c. 1848	72.8 x 100.2	–	?	c. 1847?	c. 73 x 100
Le vanneur National Gallery, London	1848	100.5 x 71	–	?	?	?
Agar et Ismaël Museum Mesdag, The Hague	1848-49	146 x 263	Dark brown-black paint layer applied after 1849, removed 1885	–	–	–
Les scieurs Victoria & Albert Museum, London	1850	57 x 87	–	La République	1848	c. 74 x 60
Gruchy vu du côté de la mer Smith College Museum of Art, Northampton, Mass.	1854	54.0 x 72.7	Brown paint layer	Nu écorché	?	?
Les bûcheronnes National Museum and Gallery of Wales, Cardiff	c. 1870	82 x 100	–	Portrait of a woman	?	82 x 100
Jeune bergère Museum of Fine Arts, Boston, Mass.	c. 1870-73	162 x 113	Brown paint layer	La captivité des juifs à Babylone	1848	?

All sizes in cm.

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Notes

1 Museum Mesdag, The Hague, inv. no. HWM 262.

2 The files of the painting's treatment are kept at the Van Gogh Museum, Amsterdam. The condition of the painting before treatment was very different from how it was left by Millet. The restoration aimed at removing disturbing elements like varnish and dirt layers, as well as numerous discoloured and visually disturbing retouchings.

3 B. Laughton, 'Millet's "Hagar and Ishmael"', *Burlington Magazine*, CXXI (Nov. 1979), 705–710.

4 Scrutiny of the painting's surface was performed by V.R. Mehra and H. Susijn, see Laughton 1979, 'Technical Appendix', 710.

5 The file on Millet's painting kept at the Laboratoire comprises various photographic techniques: C2RMF: F 3970 (films nr: 25429–25433), and RX 2711 for the x-radiographs that were made of selected parts of the painting. The file has been assembled in January 1976.

6 The authors would like to thank the staffs of respectively Museum of Fine Arts, Boston, Victoria & Albert Museum and National Gallery, both London, especially Jim Wright, Nicola Costaras and Surah Herring.

7 For a full account of the history of the painting: Laughton 1979; F. Leeman and H. Pennock, *Museum Mesdag. Catalogue of Paintings and Drawings*, (Amsterdam-Zwolle, 1996), no. 262. On the commissions and Salons organized by the Second Republic administration: P. Miquel, *Paysage et Société, 1800–1900. L'école de la nature*, V, (Mantes-la-Jolie, 1985), 314–323. Millet's commission was first mentioned in: A. Sensier and P. Mantz, *La vie et l'oeuvre de Jean-François Millet*, (Paris, 1881), 112.

8 J.-F. Millet, *La tentation de Saint Jérôme* (underneath *Œdipe détaché de l'arbre*), unsigned, oil on canvas, 133.5 x 77.5 cm, The National Gallery of Canada, Ottawa. The original support was cut in several pieces of different sizes; the biggest of these was used for the Œdipe. One fragment of the original composition was restretched and remains intact, now called *Nature morte au crane* (private collection, Switzerland), 34 x 60 cm. Originally, this still life was the bottom left corner of *La Tentation de Saint Jérôme*. See B. Laughton, *Bulletin of the National Gallery of Canada*, 24 (1974), 2–12.

9 J.-F. Millet, *Jeune bergère*, unsigned, oil on canvas, 162 x 113 cm, Museum of Fine Arts, Boston. The underlying *La captivité des Juifs à Babylone* composition was found by means of x-ray examination in 1983. See A. Murphy, *Jean-François Millet*, [exh. cat. Museum of Fine Arts] (Boston, 1984), no.141. This discovery confirmed the supposition from one of the artist's sons, François Millet, that the shepherdess had been painted on top of an older composition, which he did not know. See R. Herbert, *Jean-François Millet*, [exh. cat. Grand Palais] (Paris, 1975-1976), no. 168.

10 Sensier and Mantz 1881, 116.

11 J.F. Millet, *Le repos des faneurs*, unsigned, oil on canvas, 89 x 116 cm, Musée d'Orsay, Paris. This painting was withdrawn from the 1848 Salon exhibition at the last minute, maybe by the artist himself, or because it was rejected. T. J. Clark, *The Absolute Bourgeois. Art and Politics in France 1848–1851*, (London, 1973), 76.

12 This painting has not been identified with certainty. Boston 1984, no. 13, n. 1.

13 World English Bible (Longmont, 2000). '(13) I will also make a nation of the son of the handmaid, because he is your seed. (14) Abraham rose up early in the morning, and took bread and a bottle of water, and gave it to Hagar, putting it on her shoulder; and gave her the child, and sent her away. She departed, and wandered in the wilderness of Beersheba. (15) The water in the bottle was spent, and she cast the child under one of the shrubs. (16) She went and sat down opposite him, a good way off, about a bow shot away. For she said, "Don't let me see the death of the child." She sat over against him, and lifted up her voice, and wept. (17) God heard the voice of the boy. The angel of God called to Hagar out of the sky, and said to her, "What ails you, Hagar? Don't be afraid. For God has heard the voice of the boy where he is. (18) Get up, lift up the boy, and hold him in your hand. For I will make him a great nation". (19) God opened her eyes, and she saw a well of water. She went, filled the bottle with water, and gave the boy drink. (20) God was with the boy, and he grew. He lived in the wilderness, and became, as he grew up, an archer. (21) He lived in the wilderness of Paran. His mother took a wife for him out of the land of Egypt.'

14 The painting intended for the Salon remained unfinished and was never delivered. It is only known from a small oil sketch, 41 x 33 cm, National Museum of Western Art, Tokyo.

15 J.-F. Millet, *The Wanderers*, signed, oil on canvas, 40.6 x 32.4 cm, sale Christie's New York, 1/2—X1— 1995, lot 42 (entry by A. Murphy).

16 Millet also painted a small *Agar et Ismaël dans le désert*, unsigned, oil on panel, 17.1 x 25.4 cm, private collection, Japan. The scene, probably painted 1847–48, shows a desperate mother making a similar gesture and with similar expression as the Mesdag Museum *Agar*. According to Herbert 1975–1976, no. 45, this panel is an independent work and should not be considered a preparatory study for the large Museum Mesdag painting.

17 The support has been wax-resin lined in 1960. At that point the painting was also cleaned, retouched and revarnished. Documentation file, Van Gogh Museum, Amsterdam. The original tacking margins and tacking holes are still present, but the margins have been cut to match the thickness of the stretcher bars, together with the relining canvas. For the analyses of the lining material: Table 2.

18 These averages are based on counts of five different spots on the original canvas, over a length of two centimetres each, as shown on the x-radiographs of the painting.

19 The addition of both clay and starch to the ground would increase the absorbent and quick drying qualities of the ground. Different recipes for absorbent grounds on canvas were discussed throughout the 19th century with both optimism and caution. Most of these describe multi-layer systems. Flour (starch) and clay are among the components that are mentioned in a number of these recipes. See L. Carlyle, *The Artist's Assistant. Oil Painting Instruction Manuals and Handbooks in Britain 1800–1900* (London, 2001), 166–170, Appendix 20. As early as 1821, absorbent grounds were commercially produced in Paris. See A. Callen, *The Art of Impressionism. Painting Technique and the Making of Modernity*, (New Haven and London, 2000), 53.

20 The use of even, transparent brownish layers on top of a creamy-white ground, that were later covered completely with more opaque colours, has also been observed in the unfinished *Grande tondeuse* (1860), private collection, Tokyo.

21 J.-F. Millet, *Etude pour la figure d'Hagar*, unsigned black crayon on grey paper, 18.8 x 21.5 cm, private collection, Paris. Another study for the figure of Hagar (signed bottom left: 'Millet', black crayon on grey paper, 26.6 x 39.3 cm, Sotheby's New York, 30-4-1982, no. 135) shows the woman in similar pose, yet her face is turned to show her profile and a larger cloth covers her hair. This last study is more carefully drawn. Leeman and Pennock 1996, 336, fig. 262b.

22 In two cross-sections from different areas of the painting some carbon black particles in a medium rich layer were found on top of the transparent brown layer. We hypothesise that these belong to an underdrawing or underpainting.

23 A similar preference for strong, dark contour lines can also be observed in the unfinished *Les bûcheronnes*, c. 1870, National Museum of Wales, Cardiff. However, the contours of its principle figure were achieved in another manner than in *Agar et Ismaël*, as they were formed by leaving a dark underlying composition visible during selective overpainting. S. Constantin, 'Millet's "Four Seasons" and the "Cardiff Faggot Gatherers"',

Burlington Magazine, CXXXIX (April 1997), 259, fig. 47, 260.

24 The finished flesh tones of later paintings such as *La grande tondeuse* (see note 20) show this type of mixtures.

25 Note for example the ploughing figure in the background of *Le semeur* (1850) and the sheep descending in the distance of *Jeune bergère* (started in 1870), both at Museum of Fine Arts, Boston.

26 The way the foreground of *Agar et Ismaël* was painted can also be observed — all be it on a much smaller scale — in *Terrassiers occupés aux éboulements de Montmartre*, painted around 1846–47. See Herbert 1975–1976, no. 37. This painting has been labelled as 'unfinished', but there is no technical or archival evidence to support this. Communication by L. Nichols (Toledo Museum of Art, Toledo, Ohio) and L. Mayer.

27 See Sensier and Mantz 1881, 122. The numbers mentioned almost certainly refer to the amount of tubes. For the date of this letter, J. Cartwright, *Jean François Millet, His Life and Letters*, (London 1896), 104–105.

28 See E. Moreau-Nélaton, *Millet raconté par lui-même*, (Paris 1921) (3 vols.), vol. I, 84. In 1850 this shop at 3 rue de l'Arbre-Sec was run by Bellavoine, who had taken it over from Vallé's widow in 1847, but Millet continued to refer to it as 'Vallé's'. It can therefore be assumed that the artist already was a regular costumer in the rue de l'Arbre-Sec when he painted *Agar et Ismaël* in 1848–49. On Vallé: S. Constantin, 'The Barbizon painters: a guide to their suppliers', *Studies in Conservation*, 46 (2001), 51, 62.

29 I. Fiedler, M.A. Bayard, 'Emerald green and Scheele's green', in: *Artist's Pigments*, E. West FitzHugh ed., vol. 3, (Washington/ Oxford, 1997), 219-271.

30 Sensier and Mantz 1881, 122.

31 R. White, J. Pilc and J. Kirby, 'Analyses of Paint Media', *National Gallery Technical Bulletin*, 19 (1998), 81.

32 See for more information on 19th century oleo-resinous varnishes and their analysis: R. White and J. Kirby, 'A Survey of Nineteenth- and Early Twentieth-Century Varnish Compositions found on a Selection of Paintings in the National Gallery Collection', *National Gallery Technical Bulletin*, 22 (2002), 64–84; K.J. van den Berg, MOLART specialist report nr. 10, FOM-AMOLF, Amsterdam, Chap. 4, forthcoming.

33 Quote taken from W. H. Low, *A Chronicle of Friendship (1873–1900)*, (New York, 1908), 347–349, and quoted in full context by Laughton 1979, 705.

34 E. Wheelwright, 'Personal recollections of Jean François Millet', *Atlantic Monthly*, Vol. XXXVIII – no. CCXXVII (September 1876), 260-61.

35 According to S. Constantin, 'Nouveau regard sur l'œuvre de Millet', in *Le Chemin de Millet. Autour des collections du Musée Thomas Henry, Cherbourg*, [exh. cat. Musée d'art Mercian Karuizawa] (Miyota, 2001), 179–181, Millet re-used eleven canvases between 1841–50.

36 See B. Laughton and L. Scalisi, 'Millet's "Woodsawyers" and "La République" rediscovered', *Burlington Magazine*, CXXXIV (Jan. 1992), 12–19.

37 *Le chuchotement*, signed, oil on canvas, 45.7 x 38.1 cm, National Gallery, London.

38 The condition of *Two reclining figures* [in fact, one reclining woman and a sitting man] does not allow a clear distinction between subsequent campaigns of painting. It appears that the canvas was reworked on at least two, possibly even three occasions. A figure partially visible at the feet of the reclining woman belongs to an earlier composition, the subject of which cannot be identified. It is thought to represent 'an abandoned work of some importance for the artist, perhaps even a first attempt at a major Salon entry for 1848'. It has become partially visible as a result of a previous treatment. See Boston 1984, no. 11. The face and hat of the young sitting man next to the reclining woman bear a striking resemblance to those of the peasant in Millet's *L'Emigration ou le retour du troupeau* (c. 1846–48), 46 x 38 cm, Musée du Louvre, Paris.

39 *Le vanneur*, signed, oil on canvas, 110.5 x 71 cm, National Gallery, London. See K. Lindsay, 'Millet's Lost Winnower Rediscovered', *Burlington Magazine*, CXVI (May 1974), 239–245. Apart from an outstretched arm and fist, the incoherent image of the x-radiograph has not allowed identification of the underlying composition.

40 *Gruchy vu du côté de la mer*, signed, oil on canvas, 54 x 72.7 cm, Smith College Museum of Art, Northampton, Mass. Observations made by Herbert 1975-1976, no. 189.

41 Boston 1984, 209.

42 Personal communication by Jim Wright on the painting's surface, August 12, 2002. Examination of cross-sections taken from four different parts of the painting was performed by Jim Wright and Richard Newman, MFA Boston, Mass. '[...] Two of the four cross sections contain a fairly thick varnish layer that apparently has a high natural resin content, sandwiched between paint layers. This may represent [an] isolating layer, separating the two paintings. It does not appear to have been uniformly pigmented, although some clusters of pigments were observed here and there within the layer. [...] These could mostly be bits of paint picked up from adjoining paint layers. [This] varnish layer, however, was not found in the other two samples, both of which contained complete paint sequences from ground to the top of the second painting [...]' (Personal communication by Richard Newman, October 3, 2003).

43 Mehra and Susijn in their Technical Appendix concluded that the painting had 'been covered up with what we believe to be raw umber, but that the painting was not covered up thoroughly and uniformly.' To support this theory, these authors noted the fact that Charles Millet took off the layer while recovering from a serious illness and could therefore only have performed this difficult task if Hagar and Ishmael had not been visible partially already. The present authors have not found supporting evidence for this theory. Nor has their examination clarified how much time passed between the moment when Millet abandonded the painting and when the covering layer was applied. It was decided during the 2002 treatment that the remains of the covering layer should stay intact, as these remains are considered important witnesses of the painting's history. As they are too small to hinder a normal appreciation of the composition, they were not hidden visually by retouching.

44 Low 1908, 347–49.

45 Sensier and Mantz 1881, 112: '[...]; mais quand l'Agar fut quasi terminée, il la répudia comme une pensée obscure, [...].'

46 Laughton 1979, 709.

47 Clark 1973, 76–77.