Visions of the Hereafter

Hieronymus Bosch
1505–15

The Ascent of the Blessed (RR 38); *The Garden of Eden* (RR 36);
The Fall of the Damned (RR 32); *The River to Hell* (RR 34).
The original format of the ensemble to which they belonged is unknown.
Oil (not analysed) on oak (analysed) panel, RR 32: 88.8 × 39.6 cm;
RR 34: 88.8 × 39.6 cm; RR 36: 88.5 × 39.8 cm; RR 38: 88.8 × 39.9 cm
Museo di Palazzo Grimani, Venice

A full conservation treatment of the reverses with imitation stone (RR 33, 35, 37, 39) began in 2015, thus after the 2011 BRCP technical examination of the painting on which this report is largely based.
BRCP, *Catalogue Raisonné*, cat. 18; www.boschproject.org no. 18.

Inscriptions and labels
Reverse: RR 33 has a wooden backing, but no documentation was observed on a photograph made during its recent treatment (see below). After temporary removal of two sections of the inlay in December 2012 by paintings conservator Giulio Bono, an altered, cleaner reverse was observed, as was the marking *42* in blue crayon in the top centre.
RR 37, top right: a large label marked *103 / / ARTE A VENEZIA / / 1971*, with the addition in black pen of *CLIMA N° 1*, plus an illegible symbol. Just above that, in the centre of the panel, written in blue crayon: *184*.
RR 35: top left, written in blue crayon: *189* (?)
Under UV, non-original markings can be observed at the top left or right corner of each panel except for RR 36. These inventory numbers from Napoleonic times were painted in but later removed, damaging the original paint underneath.
At the top left of RR 34, *DPV N° 489* can be discerned.



RR 38



RR 36

SUMMARY OF CONCLUSIONS

The four panels depicting the Visions of the Hereafter, *with imitation stone in red or green on their reverses, are linked with other works in the core of the group by their painting technique. No underdrawing was revealed, as the images were painted atop a black base layer.*

The four panels were cropped at the top and bottom, and their reverses damaged by crude bevelling. They must have functioned as folding members of a larger ensemble, the original format and function of which are unknown. Remnants of barbs on the lateral edges suggest that the panels were originally housed in engaged frames, now lost. Dendrochronology indicates that the panels could have been painted from 1484 onwards, although a date after 1486 is statistically more probable. The panels are strongly cross-linked by wood from the same trees, further confirming their close connection to each other. As further explained in BRCP, Catalogue Raisonné, *cat. 18, we date these panels to around 1505–15.*

EXAMINATION DATA

14–25 November 2011 (Luuk Hoogstede, Matthijs Ilsink, Jos Koldeweij, Rik Klein Gotink, Ron Spronk).

The paintings were examined in an empty gallery space upright on an easel and also flat on a table. The fronts and sides were easily accessible. The reverses were in part blocked from view by the flexible, attached auxiliary supports, one of which has a wooden inlay.

- ***Previous research and additional documentation available*** See the illustrated articles and reports published by Nepi Scirè, Nonfarmale and Rossi-Manaresi and Tucci in Limentani Virdis et al. 1992.

  Twelve IRR details (although none from *Fall of the Damned*) and a set of twelve nearly complete XR images are kept at the offices of the Soprintendenza. The relatively low-resolution



RR 32



RR 34



RR 39



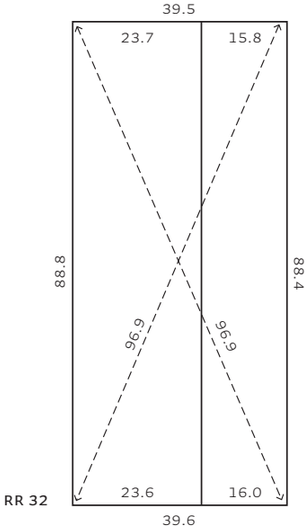
RR 37



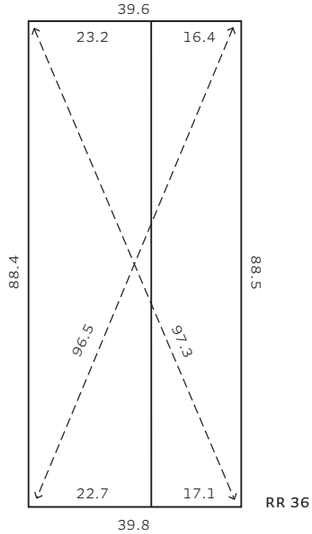
RR 33



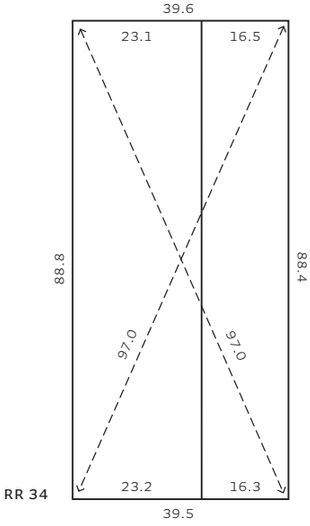
RR 35



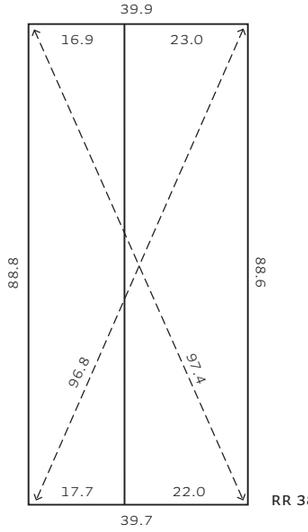
RR 32



RR 36



RR 34



RR 38

18.1 Construction diagram (seen from the front)

XR scans were used for this report. The results of the analyses of a cross-section by the Centro Cesare Gnudi in Bologna were published in 1992.[1]

- ***Previous treatments*** The paintings were most likely restored during their stay in Vienna (1838–1919). Mauro Pellicioli and aides restored the four panels in Venice in 1951.[2] They were treated again from 1990 to 1992 in a specially created studio in the Palazzo Ducale.[3] Lifting paint was consolidated, old glue residues were dissolved and fills were integrated using *rigatino* retouching, followed by a final matte varnish application on both fronts and reverses of the paintings.[4] The auxiliary perimeter wooden frameworks, attached using bolts and springs, were applied in 2007 by Pierpaolo Monfardini.[5] Between 2007 and 2008 the paintings were treated by Alfeo Micheletto; the varnishes were thinned or removed and the paintings extensively retouched.[6] At that time, cleaning tests were performed on the imitation-stone reverses. In 2008 the painting was moved to the Palazzo Grimani, where the panels were placed in a large vitrine around 2009–10.

SUPPORT

- ***Panel*** Dimensions: see construction diagram (fig. 18.1). Thickness at edges (approx.), RR 32: 0.3–0.5 cm; RR 34: 0.3–0.4 cm; RR 36: 0.3–0.4 cm; RR 38: 0.3–0.4 cm. The panels' widths are original, but all four were cropped at the bottom and top edges (see below, *Barb and edges*). The wood species, Baltic oak, was identified through dendrochronology.[7]

  Each panel consists of two false-quarter to quarter-sawn planks, vertical in grain, laid vertically. In the lower left of RR 38, curved growth rings of the beginning of a knot can be seen. The planks were butt-joined, dowelled with three dowels and glued (see also below, *Joins*).

The presumably original panel reverses are painted with imitations of stone with reddish (RR 33 and 37) and greenish (RR 35 and 39) hues, the latter on a black base colour.[8]

On RR 33, the imitation stone is almost completely lost, and only remnants of that layer remain.

- ***Bevelled or half-lap edges*** Non-original bevels are present on the reverses.
- ***Dendrochronology*** The youngest heartwood ring in the four panels dates from 1473, which, with the added minimum of nine sapwood rings for Baltic oak, implies an earliest possible felling date of 1482 for the tree that produced the wood for that plank.[9] An earliest felling date of 1484 is statistically more probable, however, since that would cover 93 per cent of the range of possibly missing sapwood rings. Assuming at least two more years for drying and transportation, the panels could have been produced from 1484 onwards, but a production date from 1486 onwards is statistically more probable. Klein also concluded that the four panels are strongly cross-linked by the use of planks produced from the same trees, which further confirms their close relationship.

GROUND

- ***Visibility*** The off-white ground is present overall. The ground can be seen in VIS and XR. It is almost completely covered by the paint layers but is detectable at the outer edges and in losses. Although it was not intended to appear as part of the composition, it has become perceptible through damage.
- ***Barb and edges*** On the fronts of the four panels (RR 32, 34, 36 and 38), ungrounded and unpainted edges have been preserved on the sides, but not on the tops and bottoms. Sections of the original barbs have been retained on the left and right sides of the *Fall of the Damned* (RR 32), the upper left and lower right sides of the *River to Hell* (RR 34), and the centre left and upper right side of the *Garden of Eden* (RR 36). This establishes that the panels were originally housed in an engaged frame, now lost. It also implies that the panels still have their original widths, but that they were all cropped at the bottom and top edges.

  No traces of original edges have survived on the reverses (RR 33, 35, 37 and 39), which were all heavily damaged in those areas (see below, *Losses*).
- ***Application*** The ground seems to have been worked into a fairly smooth finish.
- ***Composition*** Chalk (calcium carbonate – $CaCO_3$) was identified in two samples from RR 35 and 37, the reverses of *The River to Hell* and *Garden of Eden*, respectively.[10]

PREPARATORY LAYERS

- ***Underdrawing*** Not observed in VIS or IRR/IRP. The presence of a black underlayer would have necessitated the use of a lighter-coloured underdrawing material, not detectable by IRR/IRP, if one was indeed applied (see also *Paint application …*).
- ***Intermediate layers*** A bone-black underlayer was applied on the ground, covering the entire painted surfaces of the panel fronts (RR 32, 34, 36 and 38).[11]

PAINT LAYERS

- ***Paint application and painting technique*** The brush-applied oil paint (not analysed) covers the entire surface of the original painting and extends onto the remains of the barb (see below, *Altered dimensions*).[12] The paint was applied in multiple stages, both wet-in-wet and wet-on-dry.

  On all four panels, a bone-black underlayer was applied on the ground in broad brushstrokes. IRR indicates that this layer was applied overall, but not evenly (figs. 18.16–19).

  The fact that certain areas were left in reserve from another background colour does indicate some form of composition planning. As mentioned, underdrawing could not be discerned, but it is possible that parts of the preliminary composition were indicated in a light underdrawing material or paint. Perhaps the blue-grey paint observable at the contours of the figures (and also shimmering through in areas) in *Fall of the Damned* (RR 32) and especially in the *River to Hell* (RR 34) played a preparatory role. A thin line of that paint is visible bordering the upper leg of the man in the central foreground in the *River to Hell*. A similar paint below his lower leg seems to have been used in a later stage to adjust the contour of the leg. It is discernible in other areas as well, such as below the leg of the falling figure in the upper centre of *Fall of the Damned*. In the *Garden of Eden* (RR 36) and *Ascent of the Blessed* (RR 38), both a greyish paint (e.g., the thumb of the raised hand just below the centre in RR 36, fig. 18.14) and a brownish one (e.g., exposed in the lower left corner of RR 36, where the legs of the seated men were altered) might have played a preparatory role.

  In general, both the fluid and the dry, glossy paints were applied in opaque as well as semi-transparent layers. Paint was mostly laid on thickly, usually in lighter-coloured areas that needed to cover the dark underpaint, but it was also used thinly for the darker paints, where the underlayer was allowed to shimmer through. Glazes were primarily used for larger areas of clothing and fires rather than for detailing. The drier, more opaque paint and its method of application have resulted in a rather hatched appearance. For instance, in areas of flesh tones, the more impastoed paint was applied in long lines (for contour or base lines of arms and legs), in short strokes (for modelling) and in small dabs (for highlights of faces). Brushstrokes in general are fairly elongated and narrow – a technique that worked well with the slender figures and their often long hands. The panels were painted in a sketchlike manner, with only a few short dabs or strokes indicating facial features.

  For the imitation stone on the reverses, whitish paint was splattered, blown and/or dripped onto the black or reddish underlayer. A brush-applied coat of green and red glaze, respectively, was then applied thickly onto the entire surface.
- ***Texture*** Most passages do not have a smooth finish, and textured brushstrokes are often visible. Besides impastoed highlights, texture was frequently used for modelling, for example in figures such as the seated man at the lower left of the *Garden of Eden*, where a fish-bone pattern is visible in his leg (in VIS, IRR/IRP and XR).

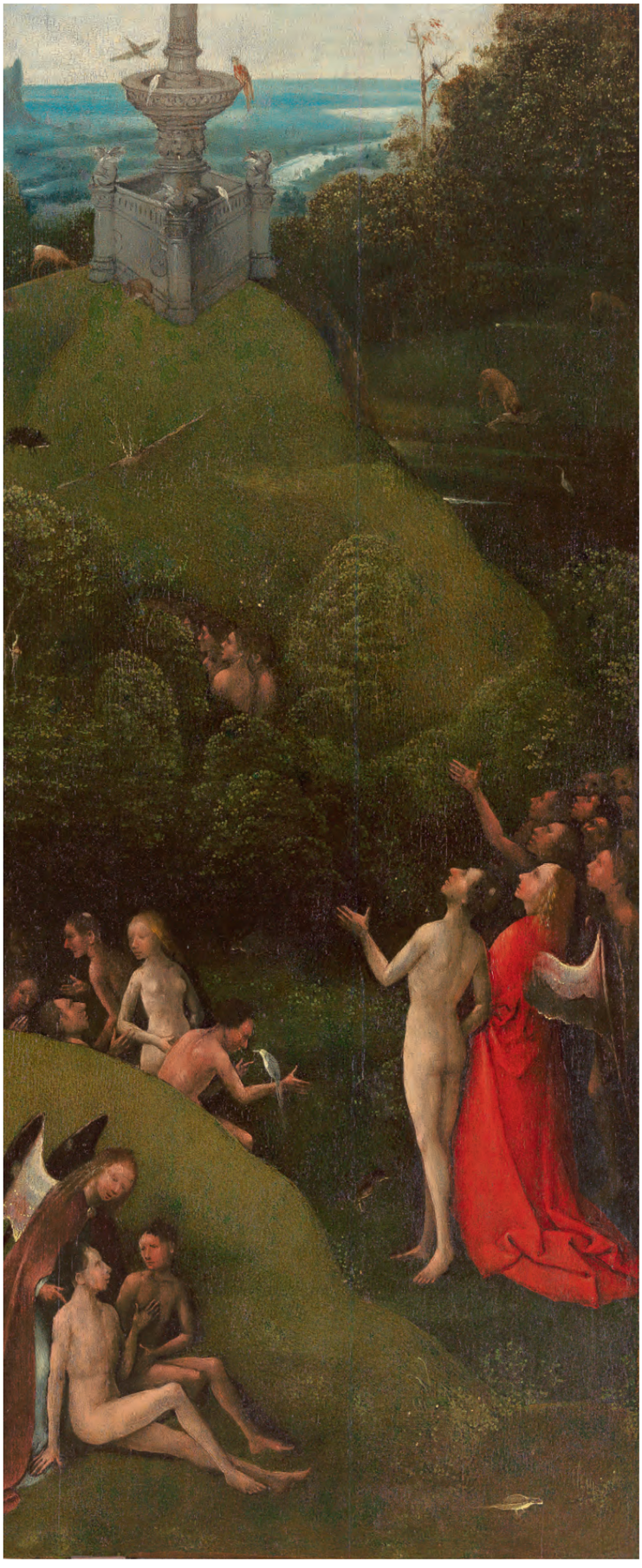
  On the reverses with the imitation stone, the highlights are quite impastoed.
- ***Build-up and palette*** The paint was mainly applied from dark to light. A black underpaint was applied overall to the surface of the four panels, and that layer was used effectively in the build-up. Only shadows and detailing such as facial features were applied dark-on-light. The artist painted from background to foreground without the use of lead-white undermodelling, while leaving areas in reserve for the foreground features.

  Glaze-like paints were applied in green (for landscape, demons and angels' wings and robes), purplish (for wings, angels' robes and some lips) and red areas (for fires and an angel's robe). Lead-white and lead-tin yellow highlights were used. The hair-like features extending from the demon at top centre in the *Fall of the Damned* (RR 32) were painted in lead-tin yellow. For the demon at the centre left, a green glaze was followed by lead-tin yellow, but the bright teeth





18.2–3 RR 38, VIS and XR





18.4–5 RR 36, VIS and XR





18.6–7 RR 32, VIS and XR





18.8–9 RR 34, VIS and XR



18.10–11 RR 36, VIS and XR



18.12–13 RR 38, VIS and XR

were painted in lead white. In the lower left corner of the *River to Hell* (RR 34), the demon was painted wet-in-wet, using light and dark green paints along with some ochre, followed by highlights. The fires in both panels primarily consist of vermilion red, bright orange, lead-tin yellow, lead white and a red or brownish purple lake (not analysed). A few orange strokes (e.g., at the right edge of the *River to Hell*, just below the hind leg of a monster, were covered by a greyish layer (fig.18.15). It is possible this fractured layer was the substrate material of a degraded (red?) lake.

In the foreground landscape of the *River to Hell* (RR 34), a greenish colour can be seen shimmering through. The green landscape in the *Garden of Eden* consists of a mixture of lead-tin yellow, malachite (copper sulphate), green earth and lead-white pigments.[13] On top of the black underpaint, the sky was first painted white with vertical brushstrokes. Then a light blue paint was applied in broad, horizontal brushstrokes, also covering the landscape and extending beneath the fountain, foliage and part of the hill. The grey fountain with wet-in-wet detailing and the foliage were painted next, followed by the darker blue of the landscape. It seems the hill was made less steep on the left to fit the fountain, the lowest section of which was painted over the hill. In the foliage at upper right, curved strokes are visible in XR (figs. 18.10–11); these were applied in the still-wet underlayer, possibly to indicate the position of the foliage. The foliage itself consists of a greenish layer followed by light green paint dots, and (locally) more whitish green dots.

The figures in the centre and the background figures at centre right were painted atop a green layer, while the foreground figures were painted directly on the black underlayer. The raised arm and hand of the man in the bottom left corner of the *Garden of Eden* (RR 36) were left in reserve from the man behind. The hair of the angel to the right was first painted in brown, with some darker brown brushstrokes for shadow areas. The lighter hairs were done with light brown, yellow (ochre?), lead-tin yellow and lead white (not analysed). The angel's gown was executed in vermilion with a red glaze for shadow areas, while black paint was used for folds, with a few touches of white for highlights. All flesh tones have a whitish to brownish pink colour, the lighter areas often being applied on top of a slightly darker and thinner pink-brown. In the *Ascent of the Blessed* (RR 38), the dark blue of the angel's robe at lower right was painted around the hand of the figure, dragging along some of the still-wet pink (38MICGBM003). The highlights on the skin tone of the angel and the figure in the tunnel were applied with heavy impasto. The greyish-blue tunnel was painted directly on the black underlayer. The dark to light grey sky colour was applied afterwards, followed by the angels, and then the figures that had been left in reserve. The artist made use of the greyish background colour shimmering through in multiple areas. The centre of the tunnel was painted first with a lead-white layer, followed by two brown figures, and a very faint suggestion of a figure, perhaps an angel. XR shows that a second layer of lead white was applied around these figures (figs. 18.12–13).

The reverses of the panels have the following build-up: on top of the chalk ground an opaque layer was applied. For the greenish imitation stone, this consists of a black layer, while the reddish stone imitation has an orangeish underlayer followed by a coating of red lake (figs. 18.22–23). White paint, which seems to be composed of lead white and chalk (ceruse) with traces of other pigments, was then

splattered, blown, and/or dripped on all panels. Finally, a copper-green lake was applied on the entire surface of the two imitation green-stone paintings, while a thick red lake layer was applied on the two imitation red-stone paintings (one of which, RR 33, is heavily damaged; see below, *Stability*).

- ***Changes*** Changes are visible in VIS and IRR/IRP. In the *River to Hell* (RR 34), a tail section was painted out at the upper leg of the human figure in the central foreground. In the *Garden of Eden* (RR 36), the hill of the fountain had a different shape. The vermilion red gown of the angel was reduced in size at the shoulder and runs under the figure to the left. That figure's arm was left in reserve from the gown but was shifted a bit. The red section between the arm and back is now covered by original red lake paint mixed with black. The right leg of the figure was originally planned slightly more forward (in a greyish-brown colour) but was moved backward, partially covering green paint.

FRAME

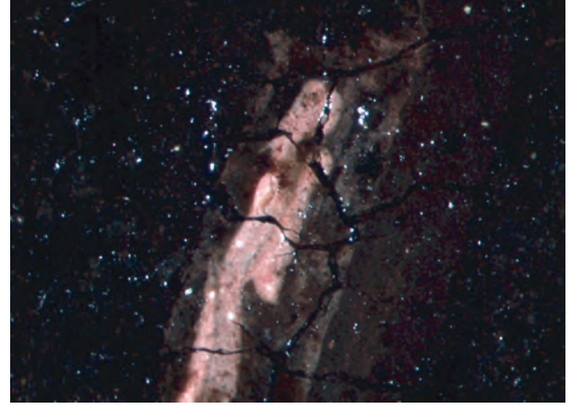
At the time of our research, the panels were unframed.[14] The original, engaged frames have been lost and the original format of the ensemble is unknown. The modern perimeter frameworks attached to the imitation-stone sides with bolts and springs provide additional support for the panels to cope with temperature and humidity fluctuations. Each framework consists of a rectangular wooden profile with round slots for springs and holes for bolts. The bolts are attached to small, round pieces of wood, which are glued to the panel's reverse. The wider bolt holes and the spring attachments allow for movement of the panel. Tightening the bolts increases the tension on the springs and reduces the flexibility between the panel and the perimeter framework. One panel has a wooden backing consisting of three thin planks inserted into the slots of the wooden profile.

CONDITION

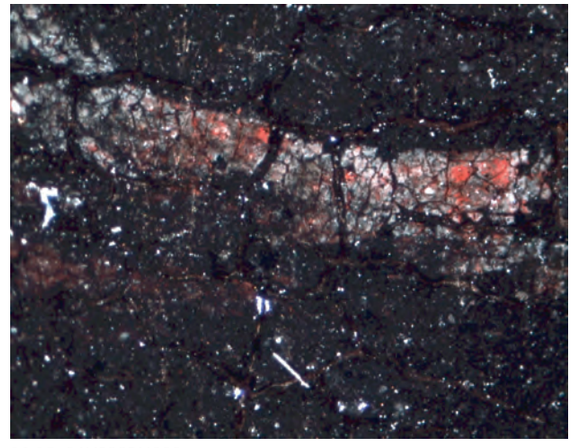
A full conservation treatment of the reverses with imitation stone (RR 33, 35, 37, 39) began in 2015, thus after the 2011 BRCP technical examination of the painting on which this report is largely based.

Support

- ***Altered dimensions*** All four panels have been cropped at the top and bottom. On the reverses, non-original bevelling on the edges has heavily damaged the picture support as well as the layer build-up.
- ***Additions*** On each of the four reverses, a thin, wooden inlay consisting of several sections was observed between the planks.[15]
- ***Cracks*** At the top left and bottom right corners of both the *Fall of the Damned* (RR 32) and the *River to Hell* (RR 34), cracks are present. In the *Ascent of the Blessed* (RR 38), cracks running along the wood grain are discernible at the top right and along the bottom edge.
- ***Deformations*** Probably because the panels are painted on both sides, there are only minor deformations and their stability is reasonably good. The support of the *Ascent of the Blessed* is slightly concave. At the bottom right of the *Fall of the Damned*, there is a small indentation.
- ***Joins*** The joins in the panels remain closed, but slight differences in level are observable on the reverses. XR indicates that in all four panels, each pair of planks has separated at some point, as all dowels are broken along the join.
- ***Coated reverse*** The reverses are painted, although the reverse of the *Fall of the Damned* is heavily damaged.



18.14 36MICGBM005



18.15 34MICGBM003

- ***Biological damage*** Minor old woodworm damage was observed in all panels. Additionally, on the reverse of *Fall of the Damned* (RR 33), brown-rot fungi have severely damaged the panel.

Ground and paint layers

- ***Stability*** The paintings are generally stable and there are no issues of recent cracks or raised paint. The reverses, however, are in poor condition, with facings holding locally raised paint in place. Also, there are only remains of original paint on the reverse of the *Fall of the Damned*, and the other panels (mainly the lower left of the reverse of the *River to Hell*, RR 35) show losses that have not been filled and retouched. The inlays at the joins are not continuous, and the remaining holes are unfilled.
- ***Losses*** In the *Fall of the Damned* (RR 32), there are several small losses spread over the surface. *The River to Hell* (RR 34) has a few losses evident just to the right of centre and in the water. Besides small losses, the *Garden of Eden* (RR 36) has larger losses in the hill area below the fountain and a scratch along the top edge. In the *Ascent of the Blessed* (RR 38), there are only pinpoint losses and a scratch in the lower left.

  Non-original bevelling has heavily damaged the preparatory and paint layers on the reverses. The reverse of *Fall of the Damned* (RR 33) has suffered the most, and only traces of reddish stone-imitation paint remain there. There are multiple losses on the other reverses.
- ***Abrasion*** The paint surface has been greatly damaged where the old inventory numbers used to be (see above, *Inscriptions and labels*). Overall the paint is quite abraded, with severely damaged paint surfaces in places.
- ***Discoloration and increased transparency*** The greens have darkened; see, for example, the foliage in the *Garden of Eden* (RR 36) and the green glazes on the imitation-stone reverses (RR 35 and 39). Some fading may have occurred in the purplish paint in the *Ascent of*



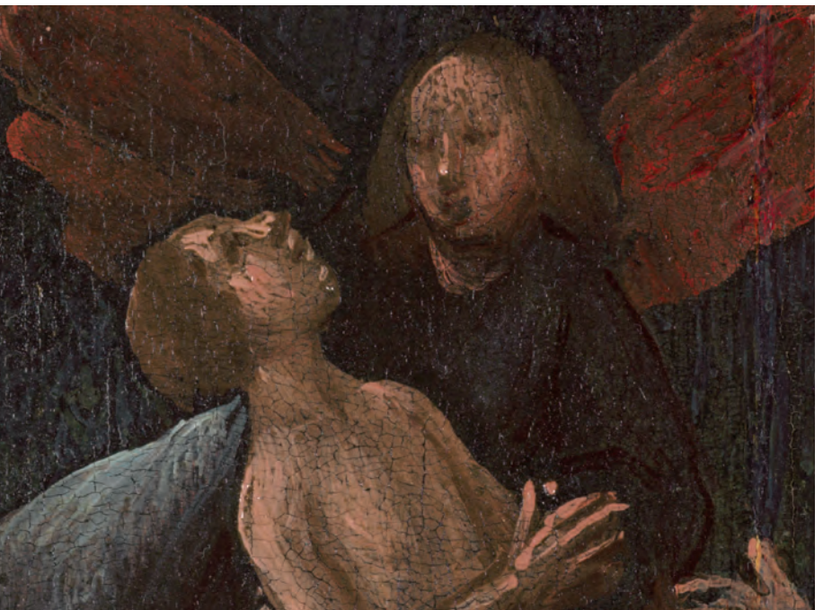
18.16–19 IRR

the Blessed (RR 38). The lead-white-bearing paint in the figures has increased somewhat in transparency, causing greater visibility of the dark underlayer and a natural but unintended change of appearance (see, e.g., fig. 18.20). This effect has been reinforced by the abrasion of the paint layers.

- ***Filling, retouching and overpainting*** The joins and most losses have been filled and inpainted. Additional retouching can be seen spread over the surface, generally more concentrated in the background. Some of these retouchings have discoloured over time and are now more apparent. The unpainted edges have been toned to reduce their presence. A bird on the join in the lower centre of the *Garden of Eden* is partially painted out. There are many retouchings just below the fountain, where a large part of the deer is still missing. A diagonal scratch at the lower right of the fountain has been retouched, and the same goes for a horizontal scratch at the bottom left of the *Ascent of the Blessed*. At the top right of *Fall of the Damned*, the grey-brown, horizontal 'beam' continues over the figure and does not seem to be original.

The top right of *Fall of the Damned* seems to have been thinly overpainted in grey-brown, covering the craquelure of the black underlayer. Large sections at the bottom of the panel have also been thinly overpainted, with greyish strokes covering the orange-brown paint. The bottom edge of the *River to Hell* is thinly overpainted as well, covering the more greenish landscape. In the entire background sky and part of the water, similarly thin, semi-transparent, dark strokes are present on the brighter original paint. At the hip of the man at the bottom centre, three larger spots where this non-original layer has been damaged reveal the original skin tone (fig. 18.21). A similar feature can be seen in *Fall of the Damned*, where at the lower left edge, the layer continues over both original paint and retouches (32MICGBM004) and locally appears more brownish (32MICGBM005), covering original red glaze-like paints. In other areas the layer is darker and thicker, covering orange and red paints (32MICGBM001–002) as well as the cracks in the paint layers underneath. Possibly this layer is glue-based and was applied during the 1951 treatment of the painting by Mauro Pellicioli, who often used glue as patina and retouching medium (see *Varnish*). This would

18.20 RR 38, VIS



18.21 RR 34, VIS



also explain the difference in thickness and colour. This material was not removed during the 2007–08 treatment, which was considered 'maintenance' (see above, *Previous treatments*).

Residues of old filling material are present on the severely damaged reverse of *Fall of the Damned* (RR 33). No filling and retouching have been discerned on the other reverses.

Surface finish

- ***Varnish*** The appearance of the varnish is uneven due to a spray application of a somewhat matte surface coating. Numerous underlying older, severely discoloured varnish residues are especially disturbing (see, e.g., the dark brown colour in the foliage at the top right of the *Garden of Eden*). There is local loss of saturation, resulting in matte areas.

  Dirt and grime were not removed from the surfaces of the reverses prior to the application of a glue layer,[16] and later, a spray coat of slightly matte varnish.[17] This has resulted in a lack of saturation and in a much darker appearance of the imitation stone.

- ***Surface dirt*** There is only a small amount of surface dirt on the paintings, since they are displayed in a vitrine. However, the extensive dirt and grime on the panel reverses has bonded with the later-applied glue (see *Varnish*).

- ***Visibility of the original surface*** The sprayed varnish has resulted in slightly matte and generally dull-looking surfaces. There are several unsaturated matte spots on the fronts of the panels. These and the highly yellowed old varnish residues cause a reduced legibility of the original paint surfaces. The many partial, not precisely colour-matched and/or discoloured retouchings distract from the original paint surfaces.

Surface dirt and lack of saturation severely obscure the depth in the reverses with the stone imitations. Local losses, damages at the joins, cleaning test areas, facing tissues, an exhibition label and non-original markings further reduce the legibility of the reverses.



18.22 RR 37 and 39, after treatment

[1] See Rossi-Manaresi and Tucci in Limentani Virdis et al. 1992, 201.

[2] Nepi Scirè in Limentani Virdis et al. 1992, 176.

[3] See Nonfarmale (in Limentani Virdis et al. 1992, 187), who mentions that the old, non-original cradles, which partly covered the marbled reverses of the *Visions of the Hereafter* panels, were maintained during the 1990–92 treatment. However, currently there are neither cradles on the reverses of these panels nor any traces of such. Also, no cradles are present in the XRS of the 1990–92 treatment.

[4] Nonfarmale in Limentani Virdis et al. 1992, 187. This brief text only discusses the general treatment of the three ensembles attributed to Bosch in Venice, and does not refer to specific works.

[5] Giulio Manieri Elia, oral communication. Pre-treatment photographs show that the panels had a simple wooden perimeter framework and that they were connected by an auxiliary metal mounting frame, similar to those on the *Saint Wilgefortis Triptych* (cat. 8; RR 21–25) and the *Hermit Saints Triptych* (cat. 2; RR 26–31).

[6] Reports were apparently not created for this treatment. Paintings conservator Alfeo Micheletto and head of conservation Maria Chiara Maida, oral communication.

[7] Klein 2001, 124.

[8] Nepi Scirè in Limentani Virdis et al. 1992, 176; also compare Baldass 1959, 231, who stated that this paint could be original ('Diese Färbelung dürfte der Entstehungszeit der Bilder entstammen.').

[9] The youngest or last-preserved ring on each plank dates from, respectively: *Fall of the Damned* – 1459 (I), 1456 (II); *The River to Hell* – 1473 (I), 1456 (II); *Garden of Eden* – 1461 (I), 1461 (II); *Ascent of the Blessed* – 1468 (I), 1472 (II). See Klein 2001, 124.

[10] A scanning electron microscope equipped for energy-dispersive X-ray spectroscopy (SEM-EDS) was used by Enrico Fiorin to analyse the samples at the Misericordia laboratory, Venice, on 11 October 2007.

[11] See Rossi-Manaresi and Tucci in Limentani Virdis et al. 1992, 201 fig. 44.

[12] This could not be confirmed for the reverses, which are all heavily damaged on the edges.

[13] The silicon detected in the *Garden of Eden* is present in both green earth and lead-tin yellow type 2. Based on comparison with the *Wilgefortis Triptych* (cat. 8, RR 29–31), where only type 1 lead-tin yellow was present, the authors conclude that Bosch used only type 1 (and thus that the silicon in the other painting must be from green earth pigment). Rossi-Manaresi and Tucci in Limentani Virdis et al. 1992, 184.

[14] Previous XRS show the non-original, mitre-joined frame of the panels.

[15] The lighter areas around the joins are caused by residues of polyvinyl acetate (PVA) glue that was used for the adhesion of the thin wooden strips.

[16] The glue was most likely applied during the 1951 treatment of the painting by Mauro Pellicioli, who often used glue as a patina and as medium for retouching. Paintings conservator Giulio Bono and head of conservation Maria Chiara Maida, oral communication. Flaking remains of this thick glue coating were also observed in places.

[17] A spray coat of slightly matte varnish was evidently applied to the reverses of the panels during the 1992 treatment. Nonfarmale in Limentani Virdis et al. 1992, 187.